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Environmental Management Report 1985

U.S. Environmental Protection Agency
Region III Information Resource
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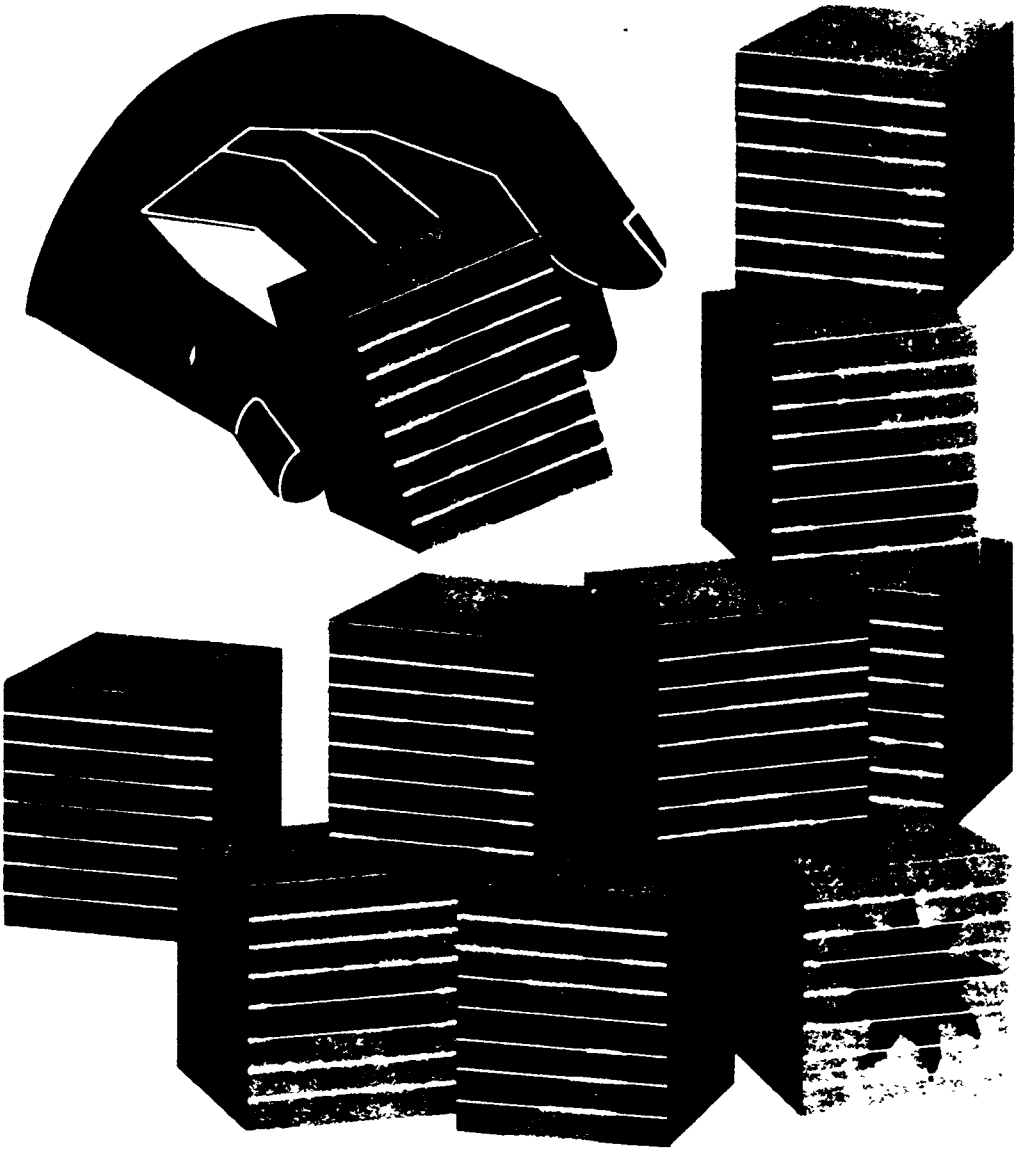
Philadelphia, PA 19107



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U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION III

1985

ENVIRONMENTAL MANAGEMENT REPORT

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Region III

1985

Environmental Management Report

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PART I.

Regional Administrator's Overview.

PART I. REGIONAL ADMINISTRATOR'S OVERVIEW

This year's Environmental Management Report (EMR) sets forth our view of the most significant environmental problems facing the States of Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia. It also outlines actions that EPA and the States are taking, and will take, to achieve environmental results on these problems.

Our major purpose in undertaking the EMR process is to make sure that sufficient attention and resources are directed to attacking the Region's most significant problems, commensurate with the scope and severity of those problems. This year's EMR does not attempt to serve as a State of the Region report or a comprehensive summary of all of our environmental problems and programs. We will continue to carry out all of the environmental laws and policies for which we are responsible. We are using this EMR process, however, to achieve maximum possible impact in resolving our biggest environmental challenges. The Region III staff and management represent a wealth of knowledge and experience in solving environmental problems. We are anxious to meet the challenges outlined in this year's EMR.

A. SUMMARY OF MOST SIGNIFICANT REGIONAL PROBLEMS

The Middle Atlantic States of Region III are faced with a variety of complex, formidable, and often interrelated environmental problems. Many of these are more difficult to define, and thus control, than were the broader pollution problems of a decade ago.

Through a collaborative Regional process described in Part II, we have identified, in order of priority, the following most significant environmental issues facing Region III today:

1. Hazardous Waste Management - With 89 uncontrolled hazardous waste sites on or proposed for the National Priorities List (NPL), and a widening gap between the volume of hazardous waste generated versus the available capacity for storage, treatment, and disposal, it should come as no surprise that hazardous waste management is our number one priority. The probability of discovering additional hazardous sites, and new RCRA regulations governing small quantity generators will further increase the challenges we now face.

2. Drinking Water and Ground Water Contamination - Drinking water quality in many areas of the Region is being threatened by (1) persistent bacterial contamination in small water supply systems, and (2) increasing levels of unregulated toxic organic chemicals.

Our ground water resources are of particular concern since they supply drinking water for 50% of the Region's 24 million people. The potential for aquifer contamination is of special concern in Southeastern Pennsylvania; New Castle County, Delaware; Anne Arundel County, Maryland; and Brooke County, West Virginia.

3. Resource Extraction (Mining) - Environmental impacts resulting from mining activities represent a significant Regional problem. We have chosen to focus on the two following areas of concern:

   Acid Mine Drainage, frequently caused by improper reclamation of coal-mined lands, is responsible for approximately 3000 miles of ecologically impaired streams in Pennsylvania, West Virginia and Maryland. It represents the most pervasive water pollution problem in Region III, and includes adverse effects on aquatic life, water supplies, contact recreational uses, aesthetics, and man-made structures subject to corrosion.

   Oil and natural gas production in western Pennsylvania and West Virginia is increasingly recognized as the cause of several environmental problems. Improper disposal of brine (a byproduct of the drilling operations) has led to degradation of streams, localized contamination of ground water, and increased levels of sodium, chlorides, arsenic, cadmium, and other contaminants in concentrations well above drinking water standards.

4. Toxic Chemical Air Releases - As in other areas of the country, Region III is increasingly aware of the potential dangers associated with the release of even trace amounts of toxic chemicals into the environment. Airborne toxicants represent a special concern in the Region due to the presence of many heavily industrialized areas, a variety of possible sources, many areas of dense population, and the lack of regulation on all but a few chemicals. Two types of releases are of concern: (1) Routine releases from both specific facilities and areawide (non-specific) sources, causing primarily chronic, often insidious, health effects, and (2) sudden, accidental releases which result in acute effects, with a Bhopal-type incident representing the worst possible case.

5. Ozone Standard Violations - The National Ambient Air Quality Standard (NAAQS) for ozone is still not being attained within several large geographic areas of Region III. While air modelling predicts attainment for most of these areas by 1987 assuming continued program controls, the Philadelphia Air Quality Control Region is not expected to achieve attainment status unless extraordinary control measures are taken.

6. Surface Water Toxics - The 1983 EMR identified toxic substances as the cause of 16% of use-impaired stream miles in Region III. Identifying the extent, severity, and impact of toxics in surface waters remains difficult. However, the 1984 State Water Quality Reports pointed to a number of problem areas based on data that is available. These include the Elizabeth River and Baltimore Harbor in the Chesapeake Bay, and the Beaver, Delaware, Mahoning, and Shenango Rivers in Pennsylvania. Aquatic life uses appear most heavily affected by toxics in surface waters However, there is also some evidence to suggest that there may be potential public health risks as well.

7. Loss of Environmentally Sensitive Areas - Population growth and development threaten environmentally sensitive areas throughout the Region. Particularly susceptible are fragile coastal lands along the flats of Delaware, Maryland, and Virginia due to urbanization and drainage for development, and peat bogs in the Pocono Mountains threatened by mining and recreational development.

8. Indoor Air Pollution - Recent data suggests that indoor exposures to both man-made and natural air pollutants have an greater affect on public health than outdoor exposures. Radon, a naturally occurring radioactive gas, represents a significant public health threat in certain areas of the Region, including the "Reading Prong" in Pennsylvania, where 40% of the homes tested by the State showed unhealthly levels. Asbestos is another indoor air pollutant which continues to be of concern, especially in many older public buildings and schools where it has been trowled or sprayed on in surface coatings and is now friable.

9. Non-Point Source Nutrient Pollution - Nonpoint sources of pollution are a dominant water quality issue throughout Region III. NPS pollutant loads are the leading contributor in 54% of the use-impaired stream miles in the Region. Nutrient contributions (phosphorus and nitrogen) and associated sediment in runoff, principally from agricultural sources, are a significant factor in eutrophic conditions in the Upper Chesapeake Bay, and are also believed to have greatly reduced the submerged aquatic vegetation (SAV) throughout the Bay. Excessive nitrogen loads are also thought to contribute to ground water contamination.

10. Acid Rain - The Middle Atlantic States represented by Region III are at the center of the acid deposition problem, both as a receptor of pollution released from neighboring and distant states, and as a contributor to Regional and external acid rain effects through emissions of sulfur dioxide and nitrogen oxides within Region III. Acidification of lakes in the Pocono Mountain region has been observed, partly through EPA's Survey of Northeastern U.S. Lakes carried out in the fall of 1984. Forest damage is less well documented, but still suspected as a result of acid deposition.

B. MANAGING FOR ENVIRONMENTAL RESULTS

The pilot 1983 Environmental Management Report provided a comprehensive perspective on the environmental problems within Region III, and outlined the available tools (and constraints) for addressing them. The 1984 EMR update identified five priority environmental issues and eight Regional management themes which complemented the EMR by orienting planning and program implementation towards an environmental framework. The 1984 update also described Region III's goal of creating a single comprehensive Regional planning system for integrating the EMR process into all of our other management systems, while concurrently attacking our significant environmental problems.

We have made progress on certain of the environmental problems and mangement initiatives cited in the first two EMR's, but we have had less success, in environmental terms, in resolving the most persistant problems identified. Most problems, of course, such as the escalating number of uncontrolled hazardous wastes sites, have evolved over several decades of neglect and will not disappear overnight. However, in order to make tangible environmental gains in the coming years and to use the EMR concept to its full advantage, we need in some cases to modify our management systems approach.

Region III has developed an innovative system for Managing for Environmental Results which we will begin to implement in FY 86. We believe it may be useful for other Regions as well. It begins by recognizing that while our National programs, environmental priorities, and guidance have served the Agency and public well, there are unique problems within every Region which remain unresolved because most of our resources are tied to National goals and commitments. This system could be improved by providing each Region with the flexibility to make limited adjustments in resource distribution and output commitments which reflect Regional and State environmental priorities.

The Regional Environmental Management Reports should be used to define those priorities and then to identify special environmental initiatives, not possible within Nationally-directed program activities, which can be implemented to address the problems. In some cases, it may be necessary to divert resources from ongoing program activities and request a relaxation in certain program commitments. The environmental initiatives can be incorporated into State grants and State-EPA Agreements where appropriate, although we have not attempted to accomplish this for FY 86.

Region III's environmental initiatives for FY 86 were developed through a rigorous screening exercise following identification of preliminary priority issues through the EMR process. First, approximately 65 proposals were developed by senior staff and managers for special efforts on the priority issues. A review committee composed of representatives from each Division and Office was formed to screen and review each proposal. Each proposed initiative was evaluated by the committee according to a set specific criteria, with the key consideration being whether the initiative would produce tangible environmental results. Through consensus, the review group consolidated a number of proposals and categorized the remaining proposals according to technical and environmental merit, ability to provide beneficial results, and funding potential.

The remaining initiatives were factored into the annual Regional resource allocation process. Overceiling positions were provided for the high priority initiatives not covered by existing program plans. The other remaining initiatives were funded, at the discretion of the Division Directors, from within existing program resources. Where necessary, adjustments were made to existing SPMS or other programmatic commitments to reflect the shift of resources. In any case, the Region will remain accountable for 100% of the resources allocated by Headquarters.

A summary of the MER process is indicated below. We believe that this approach will allow us to achieve more significant progress on our most pressing environmental problems, while still meeting broad National goals and objectives.

C. SPECIAL AND EMERGING ISSUES

While we intend to devote special attention to the priority environmental issues discussed in Part II, there are some additional issues and programs of special interest which deserve mention here.

Enforcement

Enforcement of environmental laws and regulations has been and continues to be the number one management priority in Region III. As lead Region for enforcement, Regional management has continued the emphasis on traditional enforcement activities, as well as the development of innovative enforcement initiatives.

The number of formal enforcement actions are continueing in 1985 at levels comparable to 1984, which was a banner year for enforcement in Region III. For example, we have managed a 156% increase in numbers of Administrative Complaints, and are ahead of last year's number of referrals with over 25 to date. We are also concentrating on following up on actions initiated in 1984 and in continuing to foster parternerships with our States.

REGION III's PROPOSAL
MANAGING FOR ENVIRONMENTAL RESULTS
The Process

Identify Priority Problems

- The EMR would be used to identify and rank in priority order environmental and geographic problem areas in the region

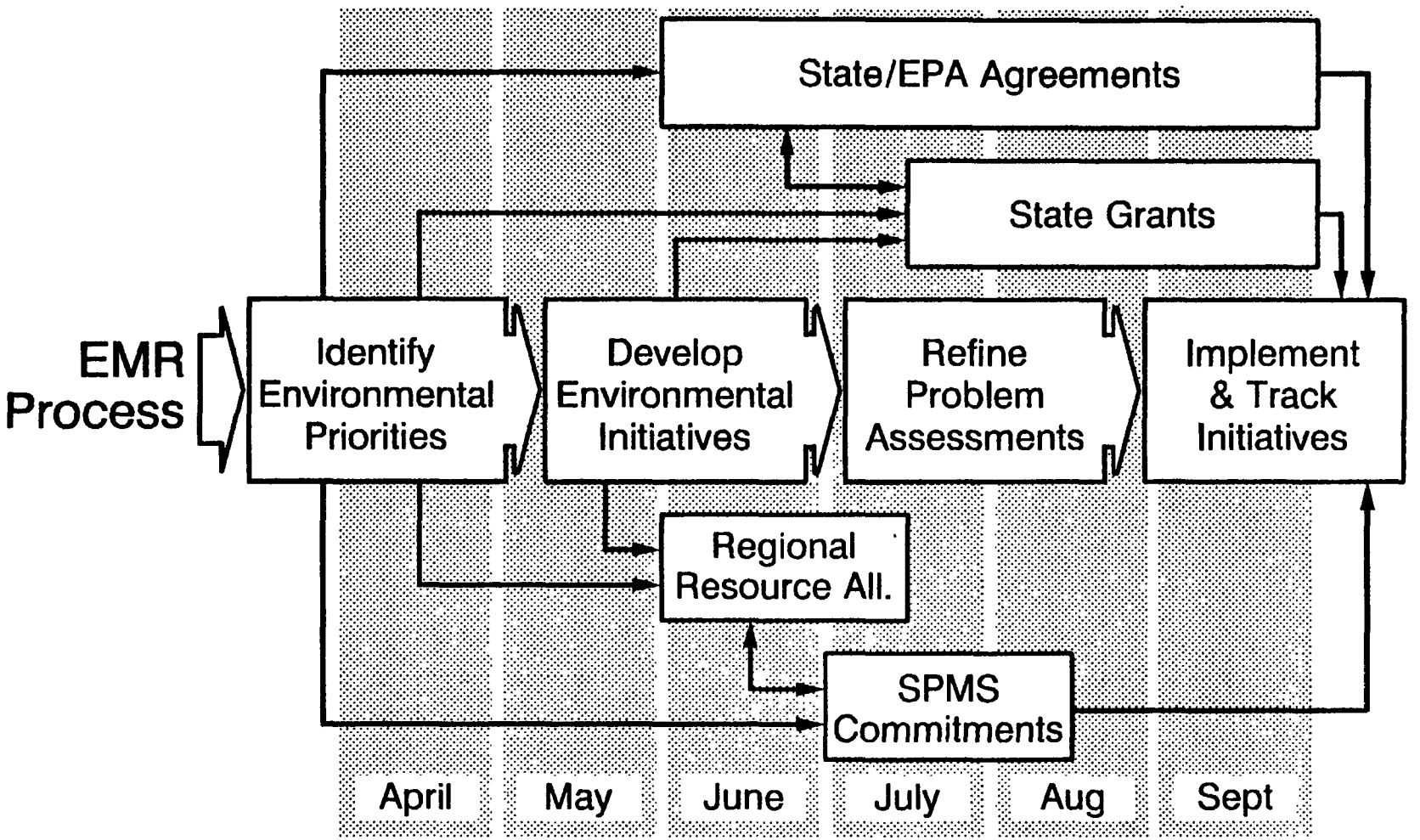
Develop Environmental Initiatives

- Identify initiatives for each environmental priority
- Initiatives would be activities not covered by normal program
- Regional administrator would select initiatives to be undertaken and make necessary regional resource shifts
- Incorporate into state/EPA agreements and state program grants where appropriate

Implement and Track Initiatives

- Specify project objectives, results expected, responsible parties, accomplishment schedule
- Set quarterly and annual goals
- Build into individual performance standards
- Monitor to ensure accountability

MANAGEMENT SYSTEM INTEGRATION



Region III continues to be in the forefront on geographic enforcement initiatives (e.g., Kanawha Valley, W.Va) and multimedia enforcement activities. We are expanding our initiatives on the Chesapeake Bay and with Federal Facilities, and have begun several new projects involving wetlands preservation and criminal enforcement activities.

Risk Assessment/Risk Management

The prevalence of toxic chemicals present in all environmental media represents the Agency's broadest challenge today. Determining which chemicals present the greatest relative risk to public health and the environment is a major purpose of the risk assessment process recently formulated by the Agency.

Multi-media environmental risk assessment considers all potential routes of exposure, and therefore cuts across traditional program boundaries. A recent study concluded that risk assessment requires "a high degree of information transfer and coordination between programs", to which "organizational structure is a significant barrier".

Region III managers have felt a need for increased exchange of information between programs, with the intent of increasing the consistency of risk assessments done by different programs. In order to promote this needed coordination, in July, 1985 the Region III Toxics Coordinating Committee decided to establish a technical Risk Assessment Subcommittee to accomplish the following:

(1) study present risk assessment procedures in the Agency and Region III, (2) recommend a consistent Regional approach to risk assessment (3) arrange and conduct risk assessment training for Regional and State staff, and (4) provide technical input to rulemaking by EPA Headquarters through the Risk Assessment Forum and other appropriate groups.

Chesapeake Bay Program (CBP)

The Chesapeake Bay Program (CBP) has been established to improve and protect the water quality and living resources of the Chesapeake Bay estuarine system, to restore and maintain the Bay's ecological integrity, productivity and beneficial uses, and to protect public health. Major accomplishments in FY 85 included:

- award of FY 84 grants to the Bay States to control nonpoint sources of pollution in the Bay drainage basin,
- adoption of a Chesapeake Bay Restoration and Protection Plan,

- establishment of a Citizens Advisory Committee and Science and Technical Advisory Committee,
- signing of Memorandum Of Understanding with participating Federal agencies, and
- initiation of a program integration assessment to review other EPA and Federal agency actions in mutual support of Chesapeake Bay Program objectives.

For FY 86, plans are being developed and implemented to:

- institute FY 86 State Implementation Grant guidance
- initiate extramural activities to produce a predictive mathematical model that addresses both water quality and hydrodynamics
- continue Bay-wide monitoring efforts in order to identify trends in the health of the Bay
- provide data management support for Federal and state programs included in the Restoration and Protection Plan, and
- implement a long-term public information/communication strategy.

Federal Facilities Compliance

The Regional Federal Facilities Compliance Program represents a fully integrated, multi-media program. Because of the large numbers of Federal facilities located within Region III, many situated in and around the Chesapeake Bay, the Region is in a position to demonstrate leadership in environmental control by ensuring that the Federal government's activities fully comply with all environmental laws and regulations.

A number of major activities will be pursued as part of the Federal facilities program in Region III, including the following:

- EPA/DOD Joint Resolution on the Chesapeake Bay - Ending our first year under this resolution, EPA and DOD will be developing a work plan for FY 86 to detail mutual activities which are most critical to the Bay's protection.

- DOD Installation Restoration Program (IRP) - DOD will be completing all identified confirmation surveys in FY 86 and initiating remedial actions where warranted.

- DOD will be initiating a pilot project to evaluate the Operation and Maintenance programs at its sanitary sewage treatment plants which will later be implemented on a national basis

Quality Assurance/Quality Control

For FY 86, Region III will emphasize the importance of and support for the Agency's Quality Assurance objectives. These objectives are essential for making sound scientific judgments in many of our decision-making processess. We will specifically emphasize the following in finalizing the Regional QA Program Plan:

1. That QA is to be a distinct activity within each appropriate program area for which adequate resources are to be dedicated to accomplish program and Regional goals.

2. That based on national QA guidelines for estimating data quality, the Region will adhere to the data quality objectives established by HQ program offices for all projects and tasks.

3. That all projects and tasks, intramural and extramural, involving environmentally related measurements are covered by an acceptable QA project plan and that plan is fully implemented.

4. That a management systems auditing process is developed to evaluate implementation of the QA Program Plan compliance with QA requirements.

5. That program specific QA training needs are identified and provided.

Environmental Services Division will provide the focus for QA activity coordination and ensure that the Region's QA Plan, to be submitted the Headquarters in the third quarter of FY 86, contains each Division's QA program plan. The Regional Plan will be the basis for full implementation of a rigorous QA program in FY 87.

Municipal Solid Waste Disposal

Many areas throughout the Region are experiencing increased problems in maintaining or developing adequate capacity for the disposal of solid waste (i.e. trash). These problems are especially serious in large urban centers such as Philadelphia, Washington, Baltimore, Norfolk and Richmond. Specific problems include a lack of capacity at existing landfills, the need to expand and/or upgrade existing landfills or incineration facilities to meet currently acceptable environmental criteria, and the economic impacts associated with expansion or upgrading. These problems have resulted because of strong public opposition to the siting of new solid waste management facilities, as well as inadequate planning at state and local levels.

Subtitle D of the Resource Conservation and Recovery Act originally provided Federal financial assistance to state and local agencies to develop and implement solid waste management plans. However, as appropriations under Subtitle D have not been available in recent years, many state and local agencies have not completed and are no longer pursuing the development of such comprehensive plans. Such planning could properly address long-term capacity needs and alternate for meeting those needs. It could also provide a forum for the public to actively be involved in the discussion of siting options.

PART II.

Significant Regional Environmental Problems.

PART II. SIGNIFICANT REGIONAL ENVIRONMENTAL PROBLEMS

A. IDENTIFICATION AND RANKING OF PROBLEMS

We used a collaborative Regional effort led by our Environmental Services Division to identify the Region's most significant environmental issues. A Task Force with representation from each Division and Office initially compiled a range of possible environmental issues and areas for discussion. Several issues from each program area were then evaluated and rated by the Task Force using a simple quantitative scoring system which is described below. To emphasize the Agency's broad mission of improving the condition of the total environment - both by reducing public health risks and protecting and enhancing the quality of natural ecosystems - criteria other than simply public health risks were included.

The issues were then consolidated, ranked, and associated with geographic areas where the issues are most prevalent. A meeting was held among senior mangers to discuss the list and to ensure that an accurate intermedia balance was reflected. Finally, a recommended list of preliminary issues was presented to the Regional Administrator for approval. The Region's preliminary list of issues was transmitted to Headquarters on May 1, 1985.

Subsequently, the preliminary list was provided to our State Environmental Secretaries for comment. Based on the States' comments and further Regional discussions, the list was revised further into the final list of issues as discussed in Section B below.

EMR Issue Ranking Criteria

Weight	Criteria	Description
20%	Population Affected (Quality of Life)	0 - 10,000 = 1 10,000 - 1000,000 = 2 100,000 - 1,000,000 = 3 1 million - 10 million = 4 Over 10 million = 5
30%	Public Health (degree of risk)	Qualitative Judgement based on the degree of health risk to that portion of population affected.
10%	Public Concern	Based on new media coverage, Congressional interest, letters received.
20%	Environmental Impacts	Affects on the environment other that public health. Oriented towards long-term ecological effects.
10%	Economic Impacts	The cost (to society) of doing nothing. Does not include costs of control strategies which may be required to address problem.
10%	Intermedia Issues	The extent to which problem crosses media bounds.

° Each environmental issue was scored by assigning a value of from 1-5 for each of the above ranking criteria and them adjusting to scale of 100 incorporating the relative importance (weight) of each criteria.

Score = [Population (Value) X Risk (Value)] X 2

+ [Public Concern (Value) X 2]

+ [Environmental Impact (Value) X 4]

+ [Economic Impact (Value) X 2]

+ [Intermedia (Value) X 2]

Example: Surface Water Toxics

Score = [4 X 3] X 2 + (3 X 2) + (4 X 4) + (3 X 2) + (2 X 2) = 56 points

24 + 6 + 16 + 6 + 4 = 56 points

Preliminary List

May 1985

REGION III
ENVIRONMENTAL PRIORITIES

	Population Affected	Public Health Risk	Public Concern	Environ-mental Impact	Economic Impact	Inter-media Issues	**Weighted Average**
Hazardous Waste	3	4	5	5	5	5	**74**
Drinking Water	5	4	5	1	4	3	**68**
Resource Extraction	4	3	3	5	4	4	**66**
Hazardous Releases (Cat.)	3	4	5	3	3	5	**62**
Ground Water	3	4	5	3	3	4	**60**
Hazardous Releases (Non-Cat.)	4	3	4	3	3	5	**60**
Municipal Waste	5	2	4	3	4	5	**58**
Ozone Violations	5	3	1	3	5	1	**56**
Surface Water Toxics	4	3	3	4	3	2	**56**
Env. Sensitive Areas	4	1	4	5	5	3	**52**
Indoor Air Pollution	3	5	3	2	2	1	**50**
Non-Point Source Poll.	4	1	4	4	5	2	**46**
Acid Rain	2	1	4	4	4	4	**44**

1985 ENVIRONMENTAL MANAGEMENT REPORT

Region III

Final List of Environmental Priorities

Environmental Issue

1. Hazardous Waste Management
   - A. Site Cleanup
   - B. Disposal Capacity
2. Drinking Water and Ground Water Contamination
3. Resource Extraction (Mining)
   - A. Acid Mine Drainage
   - B. Oil & Gas Production
4. Toxic Chemical Air Releases
   - A. Routine Releases
   - B. Accidental Releases
5. Ozone Standard Violations
6. Surface Water Toxics
7. Environmentally Sensitive Areas
8. Indoor Air Pollution
   - A. Radon
   - B. Asbestos
9. Non-Point Source Pollution
10. Acid Rain

B. DISCUSSION OF SIGNIFICANT PROBLEMS

1. HAZARDOUS WASTE MANAGEMENT

PROBLEM ASSESSMENT

Within this overall environmental issue, there are two (2) specific interrelated concerns, each of which is individually significant. When considered together, these concerns [site cleanup (including site discovery and investigation) and lack of disposal capacity] represent the most significant environmental problem in Region III.

A. Hazardous Site Cleanup

There are at this time 89 hazardous waste sites within Region III which are either on, or proposed for, the National Priority List (NPL). The NPL consists of a list of sites which based on National criteria are considered the highest priority for cleanup. These sites are contaminated by a variety of substances, primarily organic chemicals and heavy metals, which are adversely impacting ground and surface water quality, soils and air quality. These hazardous substances often result in the contamination of aquifers which are used as a source of drinking water for public and private supplies. The cleanup of these sites is conducted under the commonly referred to "Superfund" Law and is essential to protect the public health and environment of the surrounding areas.

A specific area which poses serious cleanup issues for Region III is New Castle County, Delaware. In New Castle County, an area of approximately 435 square miles and approximately 404,000 people, there are 7 NPL sites each with its own complex issues surrounding cleanup. This high concentration of sites in one County results in public health and environmental impacts on all media (i.e., water, air and soil) and has resulted in a high level of public interest and involvement. Of particular concern in New Castle County are the existing and potential impacts on ground water, as a significant portion of the County utilizes ground water as a drinking water source. Contaminants of special concern in New Castle County include: lead, cadmium, chromium, arsenic, vinyl chloride, PCB, TCE, benzene and other organic and inorganic compounds.

It is also being recognized that while approximately 2400 sites in the Region have been identified as potential hazardous waste sites, many additional sites lie undiscovered. These potential sites remain undiscovered because of a lack of emphasis, guidance and resources toward discovering new sites. A March 1985 report prepared by the General Accounting Office (GAO) has identified a need for EPA to aggressively uncover new potential hazardous waste

sites and improve the current inventory of sites. A review of Region III's inventory has led us to believe that a number of geographic areas are likely to have additional undiscovered hazardous waste sites. In particular, the area of southwestern Pennsylvania does not seem to have the number of potential hazardous waste sites listed on the national inventory that would be expected based on the past level of industrial activity.

B. Disposal Capacity for Hazardous Waste

The cleanup of the Superfund wastes results in the need to dispose of contaminated materials and soils. While often, this disposal must occur off-site, it should result in treatment and/or disposal which will not further degrade or contaminate the environment. Specifically, the disposal should be consistent with the requirements of the Resource Conservation and Recovery Act (RCRA).

There are currently serious problems regarding the number of RCRA regulated facilities which have the capacity to handle wastes from Superfund sites and which are operating in accordance with their interim status requirements (i.e., an existing facility operating under certain standards until final disposition of its permit application). As a result of the November, 1984, Amendments to RCRA, it is expected that the current shortage in available capacity will become critical during 1986 and 1987. Specifically, the amendments include provisions which are going to increase the need for capacity at treatment, storage and disposal (TSD) facilities at the same time that many interim status facilities may be forced to close due to their inability to meet specific mandates regarding ground water monitoring and financial responsibility. In addition, the lack of commercial disposal capacity is a concern for the Region beyond the disposal of Superfund wastes. The shortfall in TSD capacity will also impact active facilities generating hazardous waste and may result in increased cases of illegal dumping with a potential for significant environmental damage. While the lack of capacity is a Regionwide concern, it is expected to be particularly serious in heavily industrialized areas, such as western Pennsylvania and metropolitan Baltimore.

REGIONAL AGENDA/BARRIERS

A. Hazardous Site Cleanup

The Region intends to continue its current efforts to clean up NPL sites through either enforcement actions against responsible parties or by using the Superfund monies where responsible parties cannot be identified or are recalcitrant in taking steps to accomplish the cleanup. For the period October 1985 through September 1986 the Region intends to initiate remedial investigations at 14 sites and

remedial design or cleanup at 13 sites. In all cases, the Region, through the implementation of project-specific community relations plans, will involve the surrounding community in the decision making process. Furthermore, where a state desires to take the lead in directing remedial cleanup efforts, the Region is proceeding with the development of specific Cooperative Agreements with the State.

Regarding site discovery, the Region working with the State of West Virginia recently completed an effort to discover new sites in the Kanawha Valley. Through extensive research of available records, the use of aerial mapping, and interviews with State and local officials, the Region and State were able to identify 84 new potential hazardous waste sites. The inventory of sites for the area prior to this effort listed 56 sites. The Region in coordination with the Agency's Environmental Photographic Interpretation Center, intends to conduct a similar site discovery effort in the Monongahela-Ohio River Valley in southwestern Pennsylvania during 1985-86.

B. Disposal Capacity for Hazardous Waste

The Region has outlined some steps which could be used to facilitate discussions on the problem of a shortfall in hazardous waste disposal capacity. This approach would involve first, an assessment of the actual shortfall in capacity. This would include a comparison of the actual capacity available (adjusted for capacity likely to be lost due to a loss in interim status) against the annual hazardous waste generation rate in the Region. Secondly, by developing a task force composed of representatives from EPA, State, industry and the public, it is hoped that a strategy could be developed to either increase disposal capacity, or, possibly through the identification of alternative technology, decrease the volume of waste requiring disposal. A problem with this approach is that it places EPA in the forefront of an issue which has traditionally been a State/local responsibility, and EPA has no legislative authority to actually take a lead on siting hazardous waste disposal facilities.

REQUESTED HEADQUARTERS ACTION

Specific EPA-Headquarters actions if taken, could broaden the Region's capability to address the issues associated with site cleanup, site discovery and disposal capacity. These actions include:

° EPA's Office of Solid Waste and Emergency Response (OSWER) should consider a modification in the national policy which currently limits EPA enforcement actions to sites listed on the NPL. The policy requires some relaxation to provide Region III more flexibility to pursue enforcement actions on selective sites. These sites would be those which have serious environmental impacts and have generated

a high degree of interest within the Region and a State, but which due to the nature of the Hazard Ranking System and its emphasis on public health impacts, have scored below the 28.5 NPL cutoff. A limited number of such enforcement actions each year (i.e., 1-2 per State and/or 5-10 per Region) could further the goal of CERCLA while improving State/EPA relations.

° OSWER should provide guidance and resources to the Region to direct efforts towards the discovery of new potential hazardous waste sites. The guidance should provide direction on whether the site discovery efforts should have a geographic focus or some type of categorical focus (i.e., municipal landfills).

° EPA-Headquarters needs to develop a policy which outlines the Agency's position on the acceptable level of Regional involvement in the siting of new TSD facilities, in particular, commercial facilities.

ENVIRONMENTAL RESULTS

Current efforts on site cleanup are expected to result in an increase in the number of remedial actions initiated and completed both through enforcement lead and fund lead efforts.

The implementation of the site discovery effort in southwestern Pennsylvania is expected to result in the identification of a significant number of new potential hazardous waste sites. Once identified, those sites will be entered into the national inventory of potential hazardous waste sites, and priorities and a schedule developed for the accomplishment of future preliminary assessment and site investigations.

Due to the contraints on the Region, it is not expected that significant environmental gains will be achieved by EPA in the near future regarding the shortfall in disposal capacity. A tangible result which may be achieved will be an identification of the potential shortfall in capacity by State.

2. DRINKING WATER AND GROUNDWATER CONTAMINATION

A. DRINKING WATER QUALITY

PROBLEM ASSESSMENT

A problem of major environmental management importance is the provision of safe drinking water to the consumers in Region III. Challenges in this area are to improve the rate of compliance among small public water suppliers and to protect the public from the growing list of presently unregulated organic chemicals and biologic organisms which are being found in water supplies. The scarcity of data on unregulated contaminants is a serious problem. Also, the voluminous number of organic compounds prevents the formulation of health advisories and treatment data for every compound. This in turn makes Agency response to each incident very difficult.

In addition to inorganic contaminants (e.g., lead, nitrates, etc.) and radionuclides, the Safe Drinking Water Act (SDWA) regulates six pesticides/herbicides, trihalomethanes and coliform bacteria. Yet, many monitoring surveys and contamination incidents are showing the presence of more and different pesticides/herbicides and volatile organic chemicals in drinking water sources. This is particularly true for ground water supplies, a drinking water source previously believed to be pure and immune from contamination.

Another unregulated contaminant of concern in Region III is the parasite, Giardia lamblia. In 1983/84, major outbreaks of giardiasis occurred in Pennsylvania at three public water supplies. Thousands of consumers were potentially at risk from the gastroenteric effects of this disease and hundreds of cases were actually reported.

Along with the unregulated contaminants, compliance of public water suppliers with the SDWA continues to be a concern in the Region. The elimination of violations in small drinking water systems represents the major portion of this concern. Of the 5,853 community water systems in the Region, 5,254 are classified as small water systems (i.e., one which serves less than 3,300 people). Small systems account for the great majority of non-compliance with the national drinking water standards (approximately 98 per cent of the persistent violations).

Small systems' non-compliance involves failure to meet the monitoring and reporting (M/R) requirements or failure to comply with a Maximum Contaminant Level (MCL) requirement of the SDWA. Although the microbiological and turbidity requirements are most frequently violated, other parameters such as lead, nitrates, fluorides and radium are also of concern.

REGIONAL AGENDA/BARRIERS

The Agency is addressing these problems in a number of ways. MCL's are being proposed for the nine most frequently occurring volatile organic chemicals in water supplies. Associated monitoring with these proposed regulations, possible future requirements under the SDWA to monitor for nearly 50 unregulated organic chemicals and data received from the CERCLA/RCRA and Pesticide programs should significantly improve the data base on organic chemicals in drinking water sources. In the area of health advisories and treatment, the Office of Drinking Water will shortly have available a Health Effects Registry wihich will provide guidelines on health effects and treatment for many unregulated organic chemicals.

To diminish the problem of increasing waterborne disease associated with Giardia lamblia, water suppliers will be informed of the effectiveness of Giardia lamblia removal by properly operated and maintained filtration processes. This information will be provided through technical assistance programs (e.g., Regional seminars on giardiasis and technical assistance to the states, including laboratory support). Region III will continue to support the State of Pennsylvania's Giardia Monitoring Survey.

Proposed amendments to the SDWA call for mandatory filtration of surface water supplies. If enacted, this Region will work closely with the states to implement this provision. The most serious limitation of a mandatory filtration requirement will be the capability of most small water systems to finance construction. The Region will develop action plans to assist the water suppliers and the states in securing financial aid from other Federal agencies, State and local agencies, Public Utility Commissions and private funding institutions.

To improve compliance rates among the small water systems, EPA Region III will initiate a technology transfer program for the public and the water suppliers. The technology transfer program will consist of the dissemination of information to assist water purveyors to seek financial assistance, improve their management skills, understand the regulations and how and when to collect samples, etc.

The Region and the states will also focus more aggressively on those systems which present the greatest public health threats or are recalcitrant and persistent violators. Each State's existing compliance strategy will be revised to include a compliance improvement work plan. The Region will be more aggressive in taking Federal actions in states which request EPA support and intervention.

Limitations to Federal intervention in a primacy state are the lack of administrative order authority in the SDWA, and the regulatory process for taking Federal actions in a primacy state without its consent. Both of these limitations result in inordinate time requirements for Federal intervention.

REQUESTED HEADQUARTERS ACTIONS

Headquarters needs to expeditiously continue with the revision of the drinking water regulations. These planned revisions will set standards for volatile organic chemicals, which would help Regions, States and public water suppliers to focus on the severity of the problem and the degree of treatment necessary and associated costs. Other revisions are needed to reduce the monitoring requirements for low priority water quality parameters. This would allow water systems to concentrate resources on meeting the requirements for the priority parameters and newly established standards.

Headquarters also needs to continue to support research in drinking water treatment technology for small water systems. The emphasis should be on development of technology which is financially attainable, technologically feasible and energy efficient.

Small water system operators also need opportunities to receive technical information and assistance. The Office of Drinking Water should allocate funds and resources towards development and dissemination of technology transfer material. When the efforts of our technology transfer initiative prove successful it could prove to be a prototype for other Regions to use to reduce the National levels of non-compliance.

ENVIRONMENTAL RESULTS

States have been giving priority to the larger water systems which affect the greatest number of consumers. Continued decreases in state program funding and increasing regulatory responsibility in areas more complex than what is currently being controlled will continue to force the states to appropriately devote their resources to the larger systems. Region III's technology transfer effort will complement the states' efforts in providing technical/administrative assistance to small water systems to obtain their compliance with the existing regulations.

A major objective of this effort is to attain a level of only 4% persistant non-compliers and 4.5% intermittent non-compliers. It is hoped that the objective will be met by the end of fiscal year 1987. Attainment of the objective will result in significant improvement in the number of systems meeting drinking water standards. This will cause a resultant decrease in the population exposed to excessive levels of health related contaminants.

B. GROUND WATER CONTAMINATION

PROBLEM ASSESSMENT

Reports of existing and potential ground water contamination problems are increasing thoughout the Region. Areas of significant ground water resources that are susceptible to contamination, and known or suspected contamination sources, need to be identified and investigated.

Region III's ground water compendium, which lists ground water contamination problems reported to the Regional Office, shows a significant increase in reports in the 1980's. During the 1970's, there were 53 reported incidences of ground water contamination. In contrast, in 1980-1985 more than 225 concerns were reported. Highly significant is the fact that the reporting of these incidents is not the result of a rountine monitoring program.

With increasing data collection, more evidence of ground water contamination is found. This is of great concern as many of the more highly populated areas of the Region use ground water as a principal source of public and private drinking water. More importantly, these highly populated areas are where the contaminants of greater concern are being discovered, and they contain aquifers that are highly vulnerable to contamination. The potential for aquifer contamination has been shown to exist in southeastern Pennsylvania (comprised of Chester, Bucks and Delaware Counties), New Castle County in Delaware, Anne Arundel County in Maryland, and Brooke County, West Virginia.

In the past, the Region has found ground water contaminated by nitrates, microbiological organisms and other inorganic compounds. More recently, volatile organic chemicals (V.O.C's), which are highly toxic and thought to be highly prevalent in aquifers, have become contaminants of major concern. For instance, in 1984 there are a number of public water supply wells in southeastern Pennsylvania that remain closed due to the high levels of TCE (a V.O.C.) in the ground water. Ground water contamination from septic tanks and drainfields and shallow water-table aquifer contamination from gasoline and other petroleum products are also being found more frequently.

The sources of ground water contamination vary by area. In many cases, the direct correlation between specific sources and the contaminants is hard to establish. For some existing ground water contamination, the sources are unknown. However, contamination in the Region does result from sources such as septic tanks and drainfields, drainage and disposal wells, RCRA/Superfund sites, dumpsites and contamination incidents. Shallow water-table aquifer contamination from gasoline and other petroleum products are suspected to come from underground storage tanks (USTs) and spills. Nonpoint sources, such as urban runoff and agricultural/animal wastes are also known causes of contamination.

REGIONAL AGENDA/BARRIERS

Region III currently has a two-pronged approach to deal with ground water contamination. The first is preventative; the second is remedial. The Regions's emphasis on preventing ground water contamination relies on:

(1) The "sole-source" aquifer designations to protect unique sources of drinking water. There are three aquifers in the Region that have been designated as sole-source aquifers. The Region is currently reviewing a petition for a fourth designation in Clarke County, Virginia. In these areas, construction projects with polluting potential which receive Federal financial assistance are subjected to a special EPA review to ensure that ground water contamination will not occur.

(2) Permitting and monitoring activities under the Resource Conservation and Recovery Act (RCRA) to ensure that ongoing activities in generating and storing hazardous wastes will not contribute to future ground water contamination. A ground water monitoring network is required as a permit condition at active solid and hazardous waste facilities that might impact ground water.

(3) Water quality management planning under Section 106 and 205(j) of the Clean Water Act to assist in identifying and solving primarily nonpoint source related problems.

(4) Solid waste planning and management as conducted by State agencies. The Region relies on the States' solid waste management programs to anticipate and prevent ground water contamination form solid waste handling.

(5) The underground injection control (UIC) program, which is in its second year of operation. Because there are more than 24,000 Class V (unregulated) wells in the Region, their potential for ground water contamination is of concern. The Region has delegated the UIC program to West Virginia, Delaware and Maryland, and is directly implementing UIC programs in Virginia, Pennsylvania and the District of Columbia.

(6) Region III has an active Office of Ground Water that is designed to serve as the focal point for all multi-program responses to ground water issues within the Region. The office has developed a Regional ground water work plan based on the National Ground Water Protection Strategy developed by EPA Headquarters.

In terms of remedial actions, the Region relies on investigations with limited site-specific monitoring to identify problems. Once contamination has been documented, the Region initiates follow-up either under Superfund or other statutory authority. When appropriate, the Superfund program pursues either enforcement

action or Superfund remedial action to correct the problem. EPA works closely in all cases with local and State agenices to develop cooperative agreements to ensure adequate protection of public health and to find additional sources of drinking water where shortages may occur as a result of well closures. Intensive monitoring and cooperative investigations involving local health departments, State agencies and EPA have been conducted in Pennsylvania, Virginia, Maryland and Delaware.

The Implementation of an effective ground water protection program faces several barriers that require concentrated effort to overcome.

Prevention:

- Available staff expertise in ground water hydrology and geology at the Federal and State levels only permits response to the most pressing clean-up issues rather than to prevention of problems through resource protection.

- Reductions in funding levels and priority of water quality management planning hamper the states' ability to develop site-specific plans and nonpoint source controls for important ground water areas.

- The absence of specific programs to control pits, ponds, and lagoons hinders Federal control of these potential sources of contamination.

Remedial:

- The sources of pollutants are difficult to trace and to link to aquifer contamination. Additionally, the costs of exploration, well monitoring, case development and enforcement are high. Activities to determine the source of pollutants and develop remedial actions can cost more than State and local agencies can afford.

In addition to actively fulfilling its responsibilities under Superfund, RCRA and the Safe Drinking Water Act, Region III intends to implement the following special initiative.

- For each county in the Region, significant aquifers that are currently being used as an underground source of drinking water, or have the potential as a water supply base, are to be defined. The vulnerability to contamination (i.e., low, medium, high) of the aquifers will also be determined. The total county population using ground water as a water supply (both private and public) will also be determined. Based on this information, the counties will be prioritized, with the highest rated counties being examined in greater detail (i.e., on a county-scale basis).

- For the highest rated counties, hydrogeologic base maps will be developed. The county hydrogeologic maps will also illustrate the vulnerability to contamination of the aquifers in the county.

- Overlayed on the hydrogeoglogic base maps will be the location of RCRA and Superfund sites, dumpsites, USTs and contamination incidents to determine potential aquifer pollution problems.

- Water supply wells (both public and private) that are located near the potential contamination site(s) will be identified and information obtained on depth of well, aquifer characteristics and recharge area.

The intended end products are a series of overlay maps for each area in the Region that is identified as having ground water resources vulnerable to contamination, having a large population using the resource as a water supply, and having known or suspected sources of contamination located near the aquifer. These areas will be targeted for monitoring compliance and enforcement activities where possible under RCRA, UIC, PWSS and NPDES. For remedial actions, the Region will rely on CERCLA to clean-up known existing contaminated areas.

REQUESTED HEADQUARTERS ACTIONS

No EPA Headquarter actions are required at this time.

ENVIRONMENTAL RESULTS

Previous actions involving ground water contamination issues have been handled on a case-by-case basis after the contamination has been discovered. The EMR initiative brings together all the ongoing efforts that address ground water contamination, and develops a consolidated strategy for assessing the problem. It establishes a mechanism for protecting the Region's ground water through strict compliance of the various permit programs under the SDWA, CWA, and RCRA. Remedial action is handled under CERCLA.

The environmental objectives are as follows:

- Identify ground water resources that are vulnerable to contamination.

- Identify, located known or suspected sources of ground water contamination in these vulnerable areas.

- Prioritize these areas by incorporating into the Region's compliance enforcement actions.

- Use the UST Notification List to prioritize UST/ground water follow-up activities.

3. RESOURCE EXTRACTION (MINING)

A. ACID MINE DRAINAGE

PROBLEM ASSESSMENT

Acid mine drainage (AMD), mainly from active and abandoned mines, is the cause of roughly 3000 miles of ecologically impaired streams in Pennsylvania, northern West Virginia, and western Maryland. Adverse effects associated with AMD include: impacts to aquatic life, contact recreation, water supplies, aesthetics, and man-made concrete and metal structures. In addition, the relationship between mining activities and sensitive habitat, such as wetlands, needs further characterization regarding potential impacts. Table 1 summarizes Regional stream impairment in terms of pollution sources.

REGIONAL AGENDA/BARRIERS

Two Federal laws require that permits be issued on mining activities.

(1) The Clean Water Act (CWA) requires mine operators to have a National Permit Discharge Elimination System (NPDES) permit which limits the following pollutants: pH, iron, manganese and sediment. The NPDES permit program has been delegated to all of the the states in Region III.

In addition, the CWA also covers dredge and fill permits for wetlands protection and coal fines dredging.

(2) The Surface Mining Control and Reclamation Act (SMCRA), under Title V, requires permits to be issued for pre-mine plans, overburden analysis, runoff control, reclamation, and bonding. The bond is required in order that incomplete or inadequate reclamation is avoided. Title IV also imposes a fee on every ton of coal extracted. This fee is used in part for reclamation of abandoned lands. These unreclaimed mines appear to be the primary source of AMD in Region III.

An important objective of SMCRA is to reinforce water pollution control measures, and for this reason, efforts are being made at the headquarters level to combine the two permit systems.

As part of the Regional EMR initiatives, Region III has formed a Mining Task Force to assess mining problems and make recommendations for improving water quality attributable to mining sources. Previous Regional efforts have identified five areas that demand immediate attention.

1) Water quality improvement at abandoned sites using the SMCRA funds.

   ° EPA and West Virginia are negotiating the use of SMCRA funds for water quality improvement at abandoned mining sites. The Region's Task Force will support this effort and make recommendations.

2) The environmentally unacceptable use of instream sediment ponds in steep slope country.

   ° Regional Counsel is reviewing regulations covering sedimentation ponds. The Task Force will work with Regional Counsel to implement their legal opinion into the NPDES system.

3) Wetlands are not adequately protected by effluent guidelines or Section 404 permits. Also, water quality standards do not protect sensitive areas, such as low buffered streams.

   ° The Task Force will complete a monograph on the subject. The Task Force will also initiate negotiations with the Corps of Engineers (COE) to better define permit limitations and potential mitigations.

   ° The Task Force will develop guidelines to protect low buffered streams.

4) Regional oversight with regard to the delegation process must be reexamined, especially in the area of mine closure policies.

   ° The Region's Task Force will review oversight policies, closure practices, and make recommendations.

5) Industry wants to reopen unreclaimed mines without responsibility for treating current drainage.

   ° The Task Force will review the potential adverse impacts associated with this action and evaluate alternatives.

REQUESTED HEADQUARTERS ACTIONS

1) Headquarters should work with the regions in helping to resolve regulation and policy inconsistencies needed for the mining/wetlands issues.

2) Headquarters should coordinate with other agencies in resolving issues surrounding the use of SMCRA abandoned lands funds for water quality improvement.

3) Headquarters should review the need for personnel devoted to the long range resource extraction problem.

ENVIRONMENTAL RESULTS

1. The Mining Task Force will prepare a report by September 30, 1986, including recommendations regarding the five activities presented in the Regional agenda. The report will include:

- Required institutional changes to improve water quality at abandoned sites.
- Legal resolution and strategy to combat the usage of the instream sediment control ponds.
- Mining/wetlands issues will be advanced using both the technical information of the Wetlands Monograph and appropriate 404 permitting procedures.
- Evaluation of Regional oversight for the NPDES permits system and recommend changes, where necessary. This will extend to the issues surrounding close-down procedures.
- Evaluation of the pros and cons of regulation relief regarding reopening abandoned mines.

2. The Mining Task Force will develop a 3 year/5 year EMR initiative to significantly reduce stream impairment in Region III. These long range plans will estimate the required resources to ensure implementation.

3. Under the direction of the Deputy Regional Administrator, a Regional conference will be held on The Reclamation of Disturbed Lands. The conference will include representatives from the Federal and State sectors, the regulated community, and environmental interest groups. Proceedings from the conference will be prepared for general distribution.

4. Coordination meetings will be aranged with Pennsylvania and West Virginia to discuss Task Force recommendations and long range planning.

TABLE 1

SUMMARY TABLE: WATER USE IMPAIRMENTS - REGION III *

STREAM MILES OF USE IMPAIRMENT (SEVERE (S), MODERATE (M), POTENTIAL (P)

PROBLEM PARAMETERS	PA	MD	WV	VA	DE	DC	Region I
pH, Iron, Sediment	S-1815	S-74	S-238	S-245	S-0	S-0	S-2372
	M-0	M-0	M-748	M-20	M-0	M-0	M-768
	P-0	P-0	P-54	P-0	P-0	P-0	P-54
Nutrients Sediment	S-0	S-4	S-0	S-28	S-3	S-8	S-43
	M-233	M-430	M-112	M-67	M-17	M-11	M-870
	P-0	P-10	P-0	P-107	P-0	P-0	P-107
Dissolved Oxygen	S-0	S-13	S-0	S-91	S-3	S-8	S-115
	M-271	M-18	M-111	M-25	M-0	M-11	M-436
	P-434	P-0	P-0	P-0	P-52	P-0	P-486
Toxics Organic/ Inorganic	S-195	S-0	S-5	S-138	S-3	S-0	S-341
	M-170	M-0	M-336	M-102	M-23	M-8	M-639
	P-35	P-0	P-0	P-33	P-0	P-0	P-68
Bacteria	S-0	S-44	S-0	S-250	S-119	S-8	S-411
	M-0	M-171	M-0	M-147	M-31	M-19	M-368
	P-0	P-0	P-0	P-64	P-0	P-0	P-64

* Taken from 1983 Region III EMR

B. OIL AND GAS RELATED POLLUTION

PROBLEM ASSESSMENT

The Region III States of West Virginia and, in particular, Pennsylvania, are producers of oil and natural gas. Ever since the Colonel Drake well was drilled in 1859, hundreds of thousands of producing wells have been drilled in Pennsylvania and West Virginia. Several environmental problems occur related to oil and gas production.

Foremost among these problems is the disposal of brine that is produced as a natural by-product along with the oil or gas. Brine is the pre-historic deep ground water which is present in the oil and gas bearing zones. The brine contains contaminants such as sodium, chlorides, barium, arsenic, strontium, cadmium, iron and sulfate in concentrations up to several thousand times higher than drinking water standards. Historically, brine disposal has occurred by methods such as discharge to pits, streams, or roads. In addition, in Pennsylvania many gas producers dispose of their brine by using "blow boxes", which are shallow in-ground basins that allow the percolation of the brine into the ground water. (Attached is a map of the Pennsylvania oil and gas fields where blow boxes have been used). These brine discharge practices have led to degradation of streams throughout Western Pennsylvania, localized contamination of ground water in many areas, and increased sodium levels in some public water systems.

A second problem that has occurred is contamination of drinking water supplies due to oil and gas drilling practices. It has been estimated that the drinking water for 10,000 people has been fouled by oil and gas drilling related contamination. Hydrofracking the formation has often been blamed as the cause of contamination of drinking water aquifers.

Third, oil spills can occur on the ground surface as the result of production activities. If not quickly controlled, the spills threaten local streams, affecting both aquatic life, water supplies and other stream uses.

A particular problem area regarding oil spills is in northwestern Pennsylvania centered around the Allegheny Reservoir and Allegheny National Forest. The Allegheny Reservoir and its tributary streams currently support a diverse range of gamefish including bass, walleyes, pike and several species of trout. However, as a result of oil spills, in particular, spills resulting from past operations or abandoned wells, the potential for water quality impacts on the Reservoir is significant. Field investigations have identified serious problems along tributary streams and in forest areas. These problems include destroyed vegetation and polluted streams which can no longer support trout population or in some cases appear totally devoid of aquatic life.

REGIONAL AGENDA/BARRIERS

The Region is undertaking a number of initiatives which are expected to yield significant progress on the problems described above.

The disposal of brine into blow boxes is now regulated under the Federal Underground Injection Control Program. The Region's Water Supply Branch has begun implementation of an aggressive blow box compliance strategy. Using this strategy, the Region will integrate a public information initiative, an independent surveillance effort, and ultimately a legal enforcement presence to attain the closure of blow boxes. It is estimated that there are 3,000 or more blow boxes in Pennsylvania. Through implementation of the blow box strategy, the Region projects to achieve closure of over 90% of the blow boxes by 1987.

The management of brine discharge to streams has been lax in Pennsylvania due to lack of priority by the PA Department of Environmental Resources. For FY 86, the Region has listed State issuance of oil and gas brine discharge permits as a high priority item for the NPDES Section 106 workplan. Under the performance based grant concept, this will commit the State to addressing this issue in FY'86. Regarding West Virginia, the State has recently proposed use of a general permit for oil and gas brine discharges.

Recognizing that our efforts are changing the brine disposal practices that many oil and gas operators have used for many years, the Region will be preparing public information on the brine disposal options available, including the growing areas of deep well injection and use of centralized treatment plants. The Region plans to participate on Oil and Gas Advisory Groups, and to undertake technical reviews of the available options.

The PA DER's new Oil and Gas Act will give citizens more protection against contamination of their drinking water from oil and gas well drilling. DER is currently involved in writing the regulations and hiring staff. A concern is whether DER will receive adequate funding to properly run the program. The Region will monitor State activities under this statute to assess their effectiveness.

In an attempt to clean up in particular past oil spills, EPA's Emergency Response Section (ERS) has solicited assistance from the Regional Response Team (RRT). The RRT is composed of a number of Federal Agencies, plus in this situation the Commonwealth of Pennsylvania and was created under the auspices of the National Oil and Hazardous Substances Contingency Plan. The RRT, under the lead of EPA and the U. S. Coast Guard, has agreed to develop a plan for accomplishing a cleanup. The plan will include: identifying the location of spills and setting priorities, education and promoting responsible party cleanup through meetings with the oil industry, vigorous spill prevention control and countermeasure (SPCC) inspections and enforcement, and where necessary, funding Federal cleanup actions and aggressively pursuing cost recovery. This plan is being developed and implemented under the leadership of an on-scene coordinator from the ERS Section.

REQUESTED HEADQUARTERS ACTION

Continued Headquarters support is needed in the area of setting workable limitations for brine discharge to streams. The zero discharge requirement is based on the concept that the brine can be put in a pit and evaporated, which is not a feasible concept for Eastern states. Realistic brine discharge limits will allow states to move forward with the permitting process, thereby gaining some control over the discharges that are occurring.

The blow box problem is specific to only two States in the country - Pennsylvania and New York. Therefore, it is important that Headquarters recognize the workload involved in locating, documenting, and achieving closure of blow boxes.

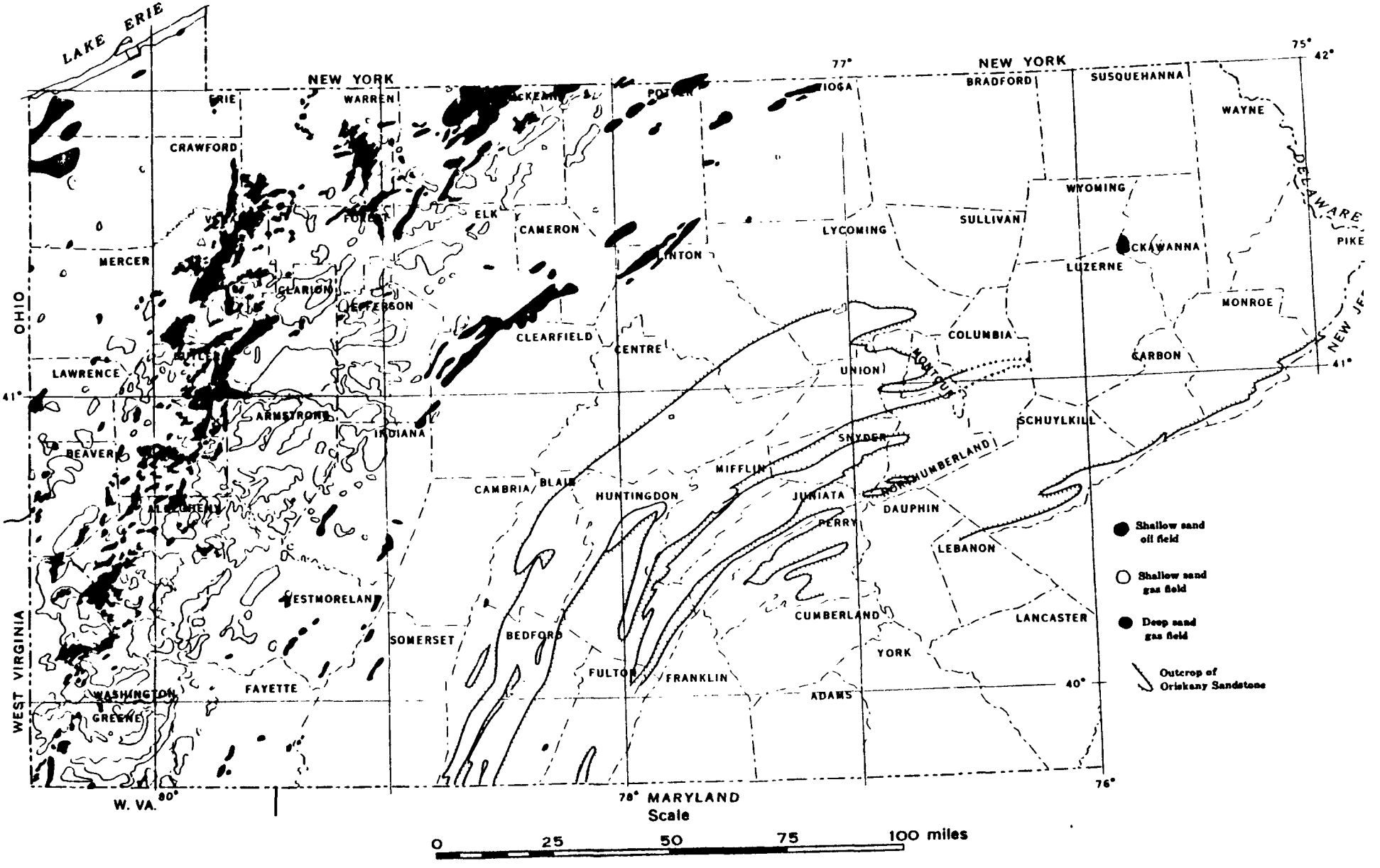
ENVIRONMENTAL RESULTS

The Region expects to achieve significant results in the area of brine discharge. Blow boxes will be eliminated, stream discharges will be controlled, and more environmentally sound brine disposal methods will be used by the oil and gas industry. As a result, stream and ground water quality will be better protected. Drinking water quality will be more effectively safeguarded by the new PA Oil and Gas law, and residents will have more chance for resolution if a problem does occur.

Initial results expected from the vigorous implementation of the RRT's Plan will include an identification and prioritization of existing spills, an increase in the number of oil spill cleanups in Northwestern Pennsylvania both by responsible parties and the EPA, and additional emphasis and compliance with existing SPCC regulations. Enforcement actions (including cost recovery of Section 311 funds expended) will be taken as appropriate.

COMMONWEALTH OF PENNSYLVANI
DEPARTMENT OF INTERNAL AFFAIF
GENEVIEVE BLATT, *Secretary*
TOPOGRAPHIC AND GEOLOGIC SURV
ARTHUR A. SOCOLOW, *State Geologist*

OIL AND GAS FIELDS MAP OF PENNSYLVANIA



4. TOXIC CHEMICAL AIR RELEASES

A. ROUTINE RELEASES

PROBLEM ASSESSMENT

Toxic pollutants are found in all environmental media. It is now understood that traditional methods to remove such pollutants in accordance with requirements of any individual media-oriented statute may merely transfer such substances to other media. Despite the usually low ambient air concentrations of these toxicants, there is concern with both long and short-term public health effects, most of which are only understood to a very limited extent. Furthermore, projections of such effects are often controversial as they usually are based upon extrapolations of laboratory data, since acceptable human epidemiological information is sparse.

Recent studies have concluded that area-wide as well as specific point sources contribute to the air toxics problem and that routine releases from these area sources appear to be responsible for the majority of aggregate cancer incidence.[1] The highest individual health risks seem to be posed by releases of substances from point sources, primarily routine releases but potentially by (however small) accidental releases. The point sources primarily identified by the previous studies are those related to various chemical processes with the air medium being the prime exposure pathway.

Concern in Region III is focused primarily upon concentrated industrialized areas such as Philadelphia, Baltimore, New Castle County, Delaware and the Kanawha Valley area of West Virginia. The Kanawha Valley is one of the most heavily industrialized chemical complexes in the nation. The sources and chemical processes throughout the Valley, directly or indirectly, are the cause of more organic compound air emissions, with potential toxic effects, than most heavily populated metropolitan areas. Because of the complex terrain that characterizes the Valley, many of these compounds are not readily dispersed and may remain entrapped for long periods of time.

The major point sources of toxic air releases in these areas are chemical manufacturing facilities. Subtances such as methyl isocyanate, chloroform, arsenic, ethylene oxide, benzene, carbon tetrachloride, acrylonitrile and many other known or suspected toxic pollutants are routinely emitted by these facilities. These pollutants, in large quantities, are often produced in areas where populations reside adjacent to chemical manufacturing facilities and are exposed daily to different concentrations of the chemical compounds.

Other major sources include industrial and manufacturing facilities, hazardous waste sites, municipal landfills, incinerators, sewage treatment plants, motor vehicles, and gas stations.

REGIONAL AGENDA/BARRIERS

EPA Administrator Lee M. Thomas announced on June 4, 1985, a five-step National Strategy to reduce the risks from toxic air pollutants. Region III will direct its programs to implement all applicable portions of the National Strategy.

One of the National Strategy steps is "Multi-Media Methods to Control Toxic Pollutants". Region III is engaging in several activities to improve mutual understanding of multi-media/multi-source/multi-pollutant interactions which pose risks to public health and the environment.

Integrated Environmental Management Plans (IEMP's), which investigate the environmental risks present in all media simultaneously, are well underway for the Philadelphia and Baltimore metropolitan areas.

The Philadelphia study is scheduled for completion this fall. Preliminary findings indicate that air toxics emissions originate principally from about a dozen sources (both point and areawide), and that some non-traditional sources such as sewage treatment plants, may be major contributors.

The Baltimore study is entering the detailed evaluation phase focusing on the following five issues:

- Metals in the environment
- Toxic air pollution
- Baltimore Harbor
- Indoor Air Pollution
- Underground Storage Tanks

Another Regional effort involves supporting the State of West Virginia in evaluating the risk posed by toxic chemicals in the Kanawha Valley. Initially, Region III and Headquarters program offices involved will perform a screening analysis of potential health risks associated with toxic releases in the Valley. At the present time, the Agency is working with the State of West Virginia to determine the scope and magnitude of this study.

Additionally, the State of Delaware will initiate a $550,000 effort later this year to monitor the ambient air for possible toxic pollutants. A tentative list of 50 monitoring locations has been established, concentrated in New Castle County where many chemical processing facilities are located.

REQUESTED HEADQUARTERS ACTION

Headquarters has committed to fund extensions of multi-media work presently on-going in Philadelphia and Baltimore to address specific air toxic issues. Additionally, funds have been provided to enable the aforementioned screening analysis in the Kanawha Valley to proceed; but the possibility exists that some additional funds may be needed to complete the screening analysis. If future work is required to determine specific control measures needed, costs for same can be considerable and this possibility should be factored into long-range budgetary considerations.

Other Headquarters support which will be needed specifically for the Kanawha Valley study include:

1. Review, comment, and concurrence with proposed protocol for meteorological monitoring, dispersion modeling and data processing for the screening phase.

2. Guidance by OR&D, OAQPS, and IEMD on data reporting techniques and prioritization of toxic pollutants listed in West Virginia's emission inventory.

3. Guidance by OR&D on techniques for monitoring of toxic air pollutants.

ENVIRONMENTAL RESULTS

The multi-media studies currently being performed in Philadelphia and Baltimore are designed to provide additional decision-making tools for optimal control of toxic pollutants. These will facilitate adoption of appropriate regulatory measures that will minimize levels of population exposure to those pollutants whether or not the most critical receptor medium is air.

The Kanawha Valley study is designed to provide for a screening analysis of human health and environmental risks present as the result of the release of various pollutants in the Kanawha Valley. The study will also include defining potential sources for control.

(1) The Air Toxic Problem in the United States: An analysis of Cancer Risks for Selected Pollutants, US EPA Office of Air and Radiation and Office of Policy, Planning and Evaluation document, May 1985.

4. TOXIC CHEMICAL AIR RELEASES

B. SUDDEN ACCIDENTAL RELEASES

PROBLEM ASSESSMENT

In addition to concern over ambient levels of toxic chemicals from routine releases, Region III is concerned with the possibility, however remote, of a sudden, major chemical accident such as that which occurred in December, 1984, at Bhopal, India. That tradegy was caused by a massive air-bourne release of methyl isocyanate (MIC) from a chemical plant storage tank, and resulted in the loss of over 2,000 lives and thousands of disabling injuries.

We believe that a tragedy of that magnitude is much less likely to occur within the United States. Because of more rigorous safety precautions and emergency preparedness plans, sudden accidental chemical releases which have occurred in the U.S. have been infrequent and noncatastrophic. However, since there are numerous large industrial facilities in this country which manufacture, handle, store, or dispose of significant quantities of potentially toxic chemicals, serious consideration must be given to improving emergency preparedness and response capabilities for potential major chemical releases wherever possible.

While the issue is of concern nationally, Region III is especially sensitive to the possibility of a major release because of the presence of a number of industrial facilities located in densely populated areas within the Region. Although this issue is raised under the heading of toxic air releases, other possible pathways of exposure are of equal concern.

REGIONAL AGENDA/BARRIERS

Control strategies for addressing a potential Bhopal-type catastrophic release fall into two broad categories: (1) those actions designed to prevent a major incident from occurring, and (2) those actions designed to improve our preparedness to respond, if necessary, and to minimize the impact on human health and the environment, once a major incident does occur.

At the Regional level, our agenda for addressing potential major incidents is directed at improving our preparedness and response capabilities. We have more experience as well as broader statutory authority for emergency responses as oppossed to emergency prevention, and can more easily implement response activities with currently allocated resources. Implementation of a preventive strategy, while also important, would likely require considerably greater resources, including the committment of significant senior level management time, and additional statutory authority.

Region III will accomplish this agenda both through ongoing programs and new initiatives. The Region will continue to maximize the use of available existing authority to address accidental chemical releases. For example, spills or releases of hazardous substances in excess of defined Reportable Quantities (RQ's) must be reported in accordance with Section 103 (a) of CERCLA (Superfund). Also, certain spills or releases are enforceable under Section 311 of the Clean Water Act if the spill reaches a navigable waterway, or under the Clean Air Act (Section 112) if the release is one of seven currently designated hazardous air pollutants. In the absence of agency rulemaking which particularly regulates a specific substance regarded as an "air toxicant," the agency's best authority to deal with such releases comes from the emergency provisions of the various statutes.

The Region has recently reviewed procedures used in handling spill and release reports received, focusing on internal coordination and enforcement follow-up actions. The review, while finding that proper and timely actions are taken when spill reports are received, did identify some areas where more formal procedures could enhance the Region's internal coordination and follow-up action. Formal Regional procedures in the form of Regional Orders are currently being developed and are expected to be in place by October 1985.

Region III's strategy also includes strengthening emergency preparedness and response capabilities by improving the adequacy of Contingency Plans developed by State and local governments. Using the framework outlined in the National Contingency Plan (NCP), the Region will work through the Regional Response Team (RRT) to ensure that each Region III State, and local areas, where necessary, have comprehensive written Contingency Plans, which address the wide range of possible accidental hazardous chemical releases. We will focus our review during FY 86 on State Contingency Plans and on those local geographic areas with prominent chemical processing facilities. For example, Contingency Plans for the Kanawha Valley in West Virginia were updated during this past year as a result of the RRT reviewing the State and local plans for that area. Our goal is to have acceptable plans in place for all local, state, and Regional areas by the end of FY 87. We also hope to develop a computerized data base of contingency plans to assist in monitoring and updating plans in the future.

REQUESTED HEADQUARTERS ACTIONS

While the Regional agenda focuses on response capabilities, we recommend that Headquarters continue its efforts to improve both preventative and response measures. The Region supports the Headquarters' ongoing activities and new initiatives outlined in the June 1985 National Air Toxics Strategy. We particularly encourage the following:

° Office of Solid Waste and Emergency Response (OSWER) should allocate additional resources to each Regional Office for improving state and local governments' preparedness activities, including contingency planning, training, exercises, and simulations.

° OSWER should expedite issuance of a List of Acute Hazards which will represent EPA's advice to the public, State and local governments, and emergency officials, on which chemicals could lead to accidents resulting in serious acute exposures.

° OSWER should continue coordinating Federal preparedness activities with private sector initiatives such as those by the Chemical Manufacturers Association and the American Institute of Chemical Engineers.

ENVIRONMENTAL RESULTS

Implementation of the above Regional and Headquarters actions will result in (1) a reduced likelihood that a major chemical release incident will occur, and (2) improved capabilities at all levels of government to respond to any emergencies which do arise.

5. OZONE STANDARD VIOLATIONS

ENVIRONMENTAL PROBLEM

PROBLEM ASSESSMSNT

The ozone National Ambient Air Quality Standard (NAAQS) is not being attained over large geographic areas within Region III. However, for most of these areas, modeling has predicted attainment of the NAAQS by 1987. The most notable exception to this is the Pennsylvania portion of the Philadelphia Intrastate Air Quality Control Region, where existing modeling predicts a 5.5% volatile organic compound (VOC) emissions reduction shortfall, leading to a predicted inability to attain the ozone standard in this area. There are many contributing factors to the ozone nonattainment problem in the Philadelphia area; namely, its location within the Northeast Corridor for ozone transport, meteorological conditions, the sheer volume of point sources in this area including several of which have not yet complied with existing VOC regulations and the delayed implementation of the automobile inspection and maintenance program.

REGIONAL AGENDA/BARRIERS

Major (greater than 100 tons per year) VOC sources are subject to existing Federal and State regulations. In addition, the automobile inspection and maintenance (I/M) program has been implemented in the Philadelphia area which should contribute to reductions in the ozone levels.

The Commonwealth of Pennsylvania and EPA Region III are examining extraordinary VOC control measures, such as controls for the wood furniture coating industry, the automobile refinishing industry and barge loading operations, that could be implemented to provide for ozone attainment by 1987. The Commonwealth is also preparing an updated, comprehensive VOC emissions inventory which is expected to show lower VOC emissions for 1985 through 1987 than originally predicted. The revised State Implementation Plan (SIP) is expected to be submitted to EPA by September 30, 1985.

One barrier to timely ozone attainment is the Commonwealth's reluctance to adopt and implement an automobile anti-tampering program. We will continue to work with Pennsylvania, including securing their participation in a study of possible tampering and misfueling problems in the Philadelphia area during the summer of 1985, and to develop an acceptable anti-tampering program in FY 1986.

Another potential problem could be a delay in the adoption of certain extraordinary VOC control measures while additional source specific and technological data is gathered.

REQUESTED HEADQUARTERS ACTIONS

None required at this time.

ENVIRONMENTAL RESULTS

The general trend in ozone levels in Region III has been a gradual reduction in violations over the years, except for 1983 which showed an unusual number of violations during the very hot, dry summer months.

The revised VOC emissions inventory and the implementation of the extraordinary VOC control measures should result in the elimination of the VOC emissions reduction shortfall and may provide for attainment of the ozone NAAQS by 1987. However, due to the widespread ozone and transport problems in the Northeast Corridor, there are no assurances of attainment by 1987.

PROBLEM ASSESSMENT

Identification of the extent, severity, and impact of toxics substances in surface waters has proven to be difficult. However, the 1984 State 305(b) reports have identified a number of streams with known or suspected toxics problems based on available water quality data. The 305(b) reports indicate that the most significant toxics problems in Region III are: Baltimore Harbor and Elizabeth River in the Chesapeake Bay and the Beaver, Delaware, Mahoning and Shenango Rivers in Pennsylvania. Many of these waterbodies are affected by both point and non-point sources from an urban/ industrialized center. Aquatic life uses are most heavily affected by toxics in surface waters. Due to the proximity of large population centers to these toxics problems, there is a high level of public interest and concern about these problems. This is particularly true for the Chesapeake Bay where contact recreation and shellfishing are important water uses potentially impacted by toxics pollution.

There may be potential problems associated with public health in several areas of the Region. As additional data are developed and analyzed, especially with regard to public health concerns, we anticipate some change in the priority geographic areas identified above.

REGIONAL AGENDA/BARRIERS

Region III continues to implement the Regional Surface Water Toxics Strategy that was established last year. As part of this effort the Region has commitments from all NPDES-delegated states to develop procedures for addressing toxics in the NPDES program. It is anticipated that all five Region III States will complete this effort in 1986. The Region will monitor state implementation through in-depth reviews of a sample of major permits issued by the states. The implementation review will be coordinated with the water quality standards program so that potential problems may be addressed in the triennial review of standards.

In addition, the Chesapeake Bay Program will address the toxics problems in the Elizabeth River and Baltimore Harbor areas of the Bay. A plan of action for the Elizabeth River area will be completed early in FY 1986. The Region will conduct intensive chemical and biological effluent analyses. These analyses will result in recommendations concerning NPDES limits for the priority dischargers. A plan of action for the Baltimore Harbor study will be developed after completion of the IEMP study.

The Region will continue to encourage States to adopt appropriate toxics criteria in their water quality standards programs. One barrier to this initiative is reluctance of State agencies to apply laboratory derived criteria to field situ ations. The Region plans to implement a new, risk assessment/risk management initiative in FY86. This involves the selection of several priority sites where carcinogens or other toxics may pose public health problems. Additional field studies will be conducted to establish contaminant levels evaluated through a risk assessment approach and risk management alternatives will be developed for consideration by State and Federal decision makers. In FY86, Region III plans to complete the field work and conduct the risk assessments at 4 sites. An additional 4 sites are scheduled for FY87. The effort will be coordinated with appropriate Federal and State agencies.

REQUESTED HEADQUARTERS ACTIONS

- o Accelerate development of scientifically sound water quality criteria for toxic pollutants - OWRS

- o Establish a national policy on an acceptable carcinogen level for protection of human health. This should be implemented consistently through all EPA programs, i.e., WQS, PWS, RCRA, ORS, ODW, OWRS, etc.

- o Insure consistent implementation across Regions of the Policy for the Development of Water Quality - Based Permit Limitations for Toxics Pollutants - OWEP

- o Develop improved bioassay tests for human health impacts of toxics pollutants - ORD.

- o Finalize monitoring program guidance which emphasizes the importance of scientifically sound toxics data gathering, management and evaluation - OWRS.

- o Provide workshop for Region III States on interpretation and application of human health criteria - ORD.

ENVIRONMENTAL RESULTS EXPECTED

We expect to obtain agreements with all Region III States on toxics permitting procedures which will result in accelerated implementation of point source controls. The State procedures and EPA review of a sample of proposed permits in NPDES delegated States will insure that toxics are properly addressed in all permits issued in the future. Since there are a large number of point sources with potential toxics concerns, this will go a long way toward controlling surface water problems in the Region.

The control programs under development in the two geographic problem areas of the Chesapeake Bay will result in NPDES limitations for all significant dischargers and recommendations for non-point source load reductions. Implementation of the permit requirements and NPS controls will result in reduction of the existing documented toxics problems.

The risk assessments will address human health concerns in selected priority areas and identify, to the extent possible, the pollution sources. Management options will be developed for consideration of State and Federal decision makers. Implementation of management recommendations will provide greater public health protection in these geographic areas.

7. LOSS OF ENVIRONMENTALLY SENSITIVE AREAS

PROBLEM ASSESSMENT

Historically, the attempt at the preservation of enviromentally sensitive areas (i.e. - wetlands, floodplains, farmland, etc.) has been ineffective. For example, since the 1950's over nine million acres of wetlands have been lost in the United States. By the year 2010, urban and other non-agricultural uses will claim 25 to 30 million acres of the nation's farmland. The impacts associated with these losses and conversions are significant.

The impacts associated with the loss of agricultural land could result in a decline in food production, the conversion of new land to agricultural use, or the intensification of farming practices. Both of these activities will contribute to water quality degradation. The impacts of agriculture, aside from pesticide regulation, have until recently been largely ignored. Soil losses have been estimated by SCS to be 3 million tons per year, and these soil losses have been identified as a major source of water pollution due to the high content of chemical and animal waste. With the intensification of agricultural activity, and the conversion of new land to agricultural use, an increase in the use of fertilizer, pesticides, and herbicides can be expected. Therefore, it is critical for Region III to develop initiatives that will preserve existing agricultural land, and to control nonpoint source pollution which is often due to poor agricultural practices.

Wetland areas are interspersed between the aquatic and terrestrial environments and are of critical importance in maintaining and improving water quality by reducing erosion and filtering both land runoff and sediments already in the water column. Wetland areas also assimilate various pollutants including nutrients. These nutrients support the growth of plants which provide organic matter that is the basis of the aquatic food web. In Region III, preliminary studies have found an annual loss of 8700 acres of freshwater wetlands, and a net loss of 14.9% of the wetlands in the Gulf-Atlantic Coastal Flats of Delaware, Maryland and Virginia. These losses must be curtailed if EPA is to be successful in its mission of protecting the environment and in maintaining or improving water quality.

REGIONAL AGENDA/BARRIERS

Administrative procedures are in existence that could and should be used to protect environmentally sensitive areas. The expertise is available within the Agency for greater application of comprehensive, ecosystem-oriented evaluations in sensitive regions (e.g. Chesapeake Bay, Poconos) or in generic systems (e.g. agricultural land use patterns and

practices, floodplains, wetlands). However, losses have been occurring due to the fact that the National Environmental Policy Act, Executive Orders, Agency policies, and Agency guidelines are not uniformly applied.

Illegal dredge and fill activities are also occurring throughout the Region that cannot be addressed with current manpower and financial resources. Many of these unauthorized activities are occurring due to a lack of identification of these areas and communication by the resource agencies to the public. EPA guidelines provide a tool for "advanced identification" but it has not been utilized by the Regions on a large enough scale to have significant benefits due to other resource commitments.

In order to achieve significant environmental results in terms of protecting environmentally sensitive areas, the Region intends to undertake a number of initiatives. The Environmental Impact and Marine Policy Branch will establish formalized interagency coordination efforts with cooperating Federal agencies (COE, SCS, DOT) for NEPA and 404 reviews. Similarly, the Assistant Regional Administrator for Policy and Management (ARAPM) intends to review construction grants and remedial actions undertaken within the Region to ensure application and/or equivalency with NEPA mandates, as well as conformity with wetlands policies, Executive Orders, guidelines, and Agency policies relevant to the protection of sensitive areas. In-house training will also be provided to these programs (CERCLA, Construction Grants) on NEPA and 404 responsibilities, ecosystem ecology and comprehensive environmental assessment.

Interface with the Chesapeake Bay Program Implementation Committee is also planned to ensure that sensitive habitat issues are incorporated into the Bay's implementation program. In addition, the Region will develop a "wetlands prioritization" program to be incorporated into the Regional decisionmaking process, and a number of "advanced identification studies" will be undertaken to improve Section 404 permit reviews and enforcement.

Finally, the Region will specifically advance its enforcement efforts in the Pocono Region of Pennsylvania where unauthorized dredge and fill activities have resulted in significant impacts to wetland areas, especially peat bogs. These enforcement activities, along with the advanced identification studies discussed above, will provide protection to thousands of acres of wetlands and associated ecosystems, and reduce the ecological losses that have been occurring, especially to freshwater wetlands.

REQUESTED HEADQUARTERS ACTION

°Headquarters should formally recognize these activities as critical to the Agency's mission in protecting the environment and reward these activities during the budgetary process.

°Headquarters should provide assistance by encouraging Agency construction grants and remedial programs to better utilize the knowledge and experience of the NEPA and 404 program offices. This would facilitate the acquisition of external permits and/or external Agency approvals by assuring that Agency actions are undertaken in the most environmentally acceptable manner and by assuring that all external coordination requirements are achieved.

°Headquarters should serve as a liaison with other Federal, State and Local agencies to assure that NEPA and Wetland Policies are applied uniformly.

°Headquarters should revise EPA's Section 404(c) guidance to facilitate decisions. For instance, Section 404(c) veto/restriction authority should be delegted to the Regional Administrator.

ENVIRONMENTAL RESULTS

With these initiatives in place, we project a minimum increase of 25% in Section 404 enforcement actions, and the protection of at least 1,500 acres of wetlands during FY86. This is in addition to the protection that is currently afforded through our normal NEPA compliance and §404 review procedures, and will be in addition to the resource savings that will accrue from our coordination and training efforts described above.

Our coordination efforts, both internally and with other agencies, will also result in the protection of environmentally sensitive areas. Coordinating activities will ensure that proper environmental considerations are being put into the early planning stages of project development, which will both benefit the environment and facilitate permitting actions occurring in later phases of their project development. This will result in fewer wetland impacts associated with Federal projects.

Finally, EPA will undertake "Advanced Identification Studies" in the Region and develop a "wetlands priority list" that will result in the initiation of at least two advanced 404(c) actions. These actions will restrict or deny dredge and fill activities in at least two environmentally sensitive wetland areas in the Region.

8. INDOOR AIR POLLUTION

INTRODUCTION

Recent data has begun to indicate that indoor exposures to both man-made and natural pollutants may be more important than outdoor exposures in terms of public health. Region III has chosen to focus its attention on two indoor air pollution problems, radon gas and asbestos.

PROBLEM ASSESSMENT

A. Radon

Radon is a naturally-occurring radioactive gas that results from the radioactive decay of uranium in the soil. It is not uniformly distributed so there are geographic "hot spots." Radon has been found to be a significant problem in an area of Pennsylvania known as the "Reading Prong," with about 40% of homes tested by the State having unhealthful levels. Radon is a suspected problem in some areas of Region III, but an equally important concern is often the lack of a data for most of the Region. EPA estimates that 5000 to 20,000 deaths occur each year in the United States from radon exposure. This estimate is based on the range of estimates made by independent U. S. and world radiation experts from epidemiological data from uranium miners.

B. Asbestos

Asbestos has been used extensively in trowled-on or sprayed-on surface coatings, in public builings and schools. Region III has operated an asbestos-in-schools program for several years. The primary concern over exposed surface coatings is because of the high potential for human exposure. This initiative would continue the completion of the asbestos-in-schools program.

At the current rate of inspections of Local Education Agencies (LEA) for asbestos, it is projected that it may take in excess of 20 years to complete the 3500 public and private LEA's in Region III. Furthermore, one friable asbestos is identified in schools, the LEA's often are recalcitrant in solving the problem unless parents become aware and demand correction.

REGIONAL AGENDA/BARRIERS

A. Radon

The main barriers to the solution of the radon problem are the lack of legal authority to conduct a regulatory program and lack of funds for remedial measures or a large-scale monitoring effort. The Regional agenda consists of an effort to identify the problem areas in the Region using radiographic data from USGS. We will also do limited spot-checks based on that data in cooperation with the state having jurisdiction. Sampling equipment to do these measurements is already on hand in the Regional Office and the USGS data is on order. We will also conduct an outreach program to assist in informing homeowners how to fix their own home and to inform builders on radon-resistant construction techniques. A massive radon monitoring program has been initiated by the Pennsylvania Department of Environmental Resources in Eastern Pennsylvania. The Region III efforts will complement this monitoring program.

B. Asbestos

The main barriers to solution of the problem include lack of financing in local school districts to remove the asbestos and lack of sufficent EPA resources to implement the inspection and enforcement program. Region III intends to continue its asbestos-in-schools program at approximately the same level as it did in the past which involves performing approximately 125 inspections of LEA's per year. American Association of Retired Persons (AARP) personnel are being used to supplement EPA personnel to meet this projection. Furthermore, through the use of grant funds a couple of Region III States will be performing additional inspection during FY'86.

REQUESTED HEADQUARTERS ACTION

A. Radon

A radon program was recently proposed for the consideration of the Administrator. Region III endorses this program. We also plan to utilize ORP Headquarters and the ORP field facilities in Las Vegas and Montgomery, Alabama to assist in our program.

B. Asbestos

Headquarters should review the progress currently being made on the Asbestos-In-Schools program and consider atternatives for accelerating the completion of the inspection effort.

ENVIRONMENTAL RESULTS

A. Radon

1. Identification of potential radon hot spots in Region III. An added benefit of this effort would be identification of areas with potential radium-in-drinking-water problems.

2. Outreach sessions and/or seminars with at least three groups of contractors/builders or with affected members of the public.

3. Monitoring of radon in at least 3 buildings from each potential hot spot, but as many as possible will be monitored, contingent on availability of travel funds.

B. Asbestos

Where inspections identify friable asbestos, the Region will continue to pursue the enforcement actions necessary to eliminate the problem and provide for a reduction in the long-term health risks of school-age children.

9. NON-POINT SOURCE POLLUTION - NUTRIENTS

PROBLEM ASSESSMENT

Nonpoint source (NPS) pollution is a dominant water quality issue in Region III and impacts all areas of the Region. Four Region III states list nutrients as a major water quality problem; three list animal wastes as a major problem; and three list sediments as major problems. This, along with the fact that 54% of the stream miles and 66% of the lake acreage in the Region are reported as not meeting designated uses because of NPS, points to the breadth of the problem. In addition to the lakes and rivers, the upper Chesapeake Bay receives 48.6% of its phosphorus and 76.9% of its nitrogen from nonpoint sources. Also, since agricultural lands provide most of the driving force for ground water recharge, nutrients, primarily nitrogen, are transmitted into the aquifer, thereby degrading this important source of domestic water in the Region.

Nutrients accelerate algal growth, which along with suspended sediments, reduce light penetration believed to be the major cause of loss of submerged aquatic vegetation (SAV) in the Bay. Algal blooms and the resultant die-off produces low dissolved oxygen conditions in many water bodies throughout the Region. Also, nutrient rich sediment deposits are responsible for large areas of zero dissolved oxygen in the deeper portions of the Bay.

Nutrients in NPS runoff can be traced to three distinct sources: animal wastes, commercial fertilizer, and naturally occurring nutrients in the soil. The transport of nutrients from each source presents a slightly different problem and therefore requires a different solution. Animal waste nutrients can enter surface water by direct discharge from the animal standing in the stream, by runoff from barn lots and manure piles and by runoff from fields with manure applied on the surface. Commercial fertilizer usually leaves the field with runoff water and the sediment carried in the runoff. Natural soil nutrients follow the same path as commercial fertilizer. Surface runoff from agriculture usually does not carry large amounts of dissolved nutrients, but does carry large amounts of absorbed nutrients on the sediment. Nitrogen, being soluable will follow the path of the first movement of water in the soil and this is usually downward. Therefore, nitrogen either moves into the groundwater or moves to surface waters being interflowed below the soil surface. In the Chesapeake Bay, the early spring runoff events moves large amounts of phophorus into the Bay, followed a few weeks later by nitrogen carried by high base flows in the rivers.

REGIONAL AGENDA

The efforts to control NPS nutrient problems have several defined goals:

1. Reduce NPS phosphorus induced aquatic impacts in lakes, rivers and Chesapeake Bay.

2. Decrease nitrogen loads to both surface and groundwater resources.

3. Improve water quality in the Chesapeake Bay and other water bodies in the Region.

4. Restore the living resources and aquatic habitat in the Bay.

5. Reduce erosion and sediment transport to protect both the soil and water resources of the Region.

Virginia, Pennsylvania and Maryland have operating cost share and technical assistance programs that are addressing urban and agricultural NPS problems in the Bay watershed through the installation of best management practices (BMP). All programs are using both state and federal funds to accomplish their goals. Also, USDA through its normal conservation program, is working with the states on this task.

In order to reach the above stated goals many activities must happen at the same time. Through the use of Clean Water Act grants (205g and 106) the states must increase their technical assistance staff to insure effective use of the implementation funds. An expanded NPS monitoring program is needed, utilizing the grant process (205j and 106). This will provide information on the effectiveness of the installed BMPs as well as provide data for overall program evaluation. In order to provide the states with assistance and guidance on NPS programs, EPA is hiring a full time NPS specialist to work in the Region with the major effort directed to the Bay. In order to assure coordination and cooperativeness with USDA programs, a staff person is being assigned to work in this area. The Region has MOUs with SCS, FWS, COE, NOAA, and USGS concerning the Bay Program and is working on others to insure coordination of programs, projects and day to day activities.

The Regional NPS program is stressing the concept of using NPS funds only where the most benefit can be derived. This concept of targeting NPS funds is being encouraged at all levels of planning in state grants and in ongoing conservation programs. This includes targeting basins and sub-basins, targeting critical areas within these

areas, and targeting at the farm and field level. Also, a progress tracking system is being developed for the Bay to assist in management of the grants and evaluations of program effectiveness. Another benefit of tracking will be to assist in determining load reductions accomplished through implementation of BMPs.

The states have the lead role in developing and implementing the NPS program for the Bay and Region. They are responsible for the coordination with local and federal programs in their states. Much of the assistance needed for the NPS program will come from other federal agencies with ongoing programs. This is ensured through MOUs, with EPA. EPA must also provide assistance for all phases of this effort. The Region will be responsible for most of the activity, but will rely upon Headquarters to assist as needed.

HEADQUARTERS ACTION NEEDED

1) Continued support in areas of policy and guidance reflecting the needs of the Region and Chesapeake Bay from both the Office of Marine and Estuarine Protection and the Office of Water Regulations and Standards.

2) Assure that the Chesapeake Bay Program interests are included when cooperative efforts with other agencies are developed.

3) Utilize the Chesapeake Bay drainage basin as the test area development of point and nonpoint source load evaluations using "Reach File" programs, as this system is modified to include NPS information.

4) Provide NPS effectiveness data, including information from the RCWP evaluation program and the CTIC data sets.

5) Provide assistance in obtaining data and information regarding NPS implementation within the Bay drainage basin from other agencies (USDA) for use in implementation tracking and NPS effectiveness evaluations.

ENVIRONMENTAL RESULTS

Reducing the nutrient loads will reduce the number of river miles and acres of lakes that are not now meeting designated uses. Also, reduced loads will greatly help the restoration of Chesapeake Bay, although the Bay will react slower that the lakes or rivers.

For Chesapeake Bay, control of nutrients and sediment will mean an improvement in the living resources of the Bay (SAV, striped bass, and shellfish), an improvement in the commercial and recreational interests on the Bay, a stabilization of the land resources in the drainage basin of the Bay, and an economic improvement for the agricultural community in the basins.

10. ACID RAIN

PROBLEM ASSESSMENT

Region III believes that acid deposition is a real and serious environmental problem. The Middle Atlantic States covered by Region III are at the center of the controversey. Because the States in Region III are heavily populated and industrialized, the emissions of sulfur dioxide and nitrogen oxides within the States are major contributor to the local acid rain problem. Pollution released from neigboring and more distant States contributes to the problem, because much of the pollution is transported through the air over long distances before being brought to earth by rain and by fallout of aerosol.

We know from the Survey of Northeastern Lakes carried out in fall 1984 that some of the lakes in the Pennsylvania Pocono mountains are not healthy, because they are too acidic, and other lakes would be damaged if more acid is introduced, which may occur because of acid deposition. The Survey did find that most of the lakes appear to be resistant to acidification.

We know less about the damage being done to the forests. Serious forest damage in Europe has been attributed to Acid Deposition, as has more limited damage in the Northeastern United States. Research in this area is just beginning with the first results not expected for 3 years.

REGIONAL AGENDA

The Middle Atlantic State Air Pollution Control Agencies and EPA Region III are playing a major role in the National effort concerned with acid deposition. Most of this effort involves two vital activities:

1. State Acid Rain Program (STAR)

   The STAR program is approximately 30 projects that are being carried out by the State Air Pollution Control Agencies. These projects taken together represent a practical review of the administrative and managerial steps that EPA and the States would employ if legislation is passed to control acid deposition. A $3 million dollar supplementary appropriation was provided in FY 85 to support these efforts.

In Region III, the Washington DC Council of Governments, State of Maryland, and State of Pennsylvania have agreed to undertake projects in the STAR program. The projects will be completed during the 4th quarter of FY 86.

Region III will monitor and administer these projects as part of its overview of the 105 Air Grant programs.

2. National Emission Data System (NEDS)

National Emission Data System is the EPA operated computer based emission data base used by the State 105 Grant Agencies to record the emission data that they collect each year for all major industrial sources across the country. These updated emission inventories are due each year by July 1st. In the past NEDS was not a high priority activity; therefore, extra effort is required this year to obtain the best possible inventory.

Region III will be putting additional effort into assisting the States in preparing their annual emission inventory. This is reflected in the change of approach that Region III will be following:

During previous years Region III waited until the submittal were received and processed before beginning the work of verifying that all the emission sources were included and beginning the work of correcting the coding errors.

During FY 86 more effort will be put into correcting and rectifying omissions in the 1984 emission inventories.

- This will include use of non-NEDS information to verify that all industrial sources are included in NEDS 1984. This effort will produce 1985 inventories that will be complete when they are submitted.

- Also, Region III personnel will work with and, if necessary, train the State personnel in coding the NEDS information with the errors in the 1984 submittal identifying where the efforts should be directed. After this effort, few coding errors should be found in the 1985 submittal.

- Also, Region III personnel will review the inventory information at the State offices sufficiently in advance of the FY 85 submittal to EPA to allow corrections and to collect missing information.

REQUESTED HEADQUARTERS ACTION

1. State Acid Rain Program (STAR)

The STAR program is being directed by the EPA Acid Rain Office, AR-445, at EPA Headquarters. We are satisfied with the approach and schedule described below that the Acid Rain Office has established for the STAR program, and we are not not requesting additional Headquarter's assistance.

EPA Acid Rain Office, AR-445, will monitor the technical performance of the individual STAR projects and identify the need for redirection of tasks. Where appropriate EPA Acid Rain Office is expected to request Region III to take formal action under the Region's role of administrator of the 105 grant program.

EPA Acid Rain Office will evaluate the findings of the STAR projects and formulate from the findings a prototype regulatory program for implementing controls for acid deposition. A description of this prototype program is expected to be available about 6 months after the STAR projects are completed, probably Spring 1987.

2. National Emission Data System (NEDS)

In the past NEDS was not a high priority activity. Headquarters has identified NEDS to be a high priority program in 1985, because it is the industrial source emissions data base that will be used for studying the acid deposition problem. Headquarters has stressed the importance of the 1985 inventory by (1) including NEDS in the Strategic Planning and Management System, (2) identifying NEDS as high priority in the 1986/87 Operating Plan, (3) including Acid Rain Inventory (meaning NEDS) among the special initiatives in the Performance Grants Program for the FY86 105 State Grants, and (4) the Administrator's June 11, 1985 letter to the State Secretaries for Environmental Affairs in which he discussies and stresses the importance of obtaining the best possible acid rain emission inventory.

The effort that will be required at the working level to obtain the best 1985 inventory has not been emphasized by Headquarters, nor has Headquarters identified intermediate and final goals nor have the promised additional funds been identified. Headquarters must provide the guidance, arrange for distribution and feedback of information and identify the funds that are available before the States and EPA Regional make their plans to collect the best inventories.

ENVIRONMENTAL RESULTS

1. State Acid Rain Program (STAR)

The STAR projects will produce a detailed plan that the regulatory agencies will follow to control the emissions of pollution that cause acid rain. Because the State and Local Air Pollution Agencies played a major role in the STAR projects, the plan will incorporate a balance of environmental, social, and economic considerations.

2. National Emission Data Base (NEDS)

The 1985 NEDS will provide the inventory of industrial emissions that will be used in studying the acid deposition problem and to plan for its control.

II.C. FOCUS ON SPECIFIC GEOGRAPHIC AREAS

Region III has long been an advocate of the geographic integration concept. That is, a large proportion of environmental problems nationally are concentrated in a relatively few geographic areas, where populations or sources of pollution are so concentrated that total environmental risk remains high,even after the application of broad national control requirements. These problems are most effectively addressed by focusing attention on the geographic areas of concern on a selective basis where environmental concerns have been identified. Region III has been in the forefront of applying the geographic concept, through our experiences with the Philadelphia and Baltimore Integrated Environmental Management Projects.

In developing a preliminary list of environmental issues for this year's EMR, an attempt was made to associate discrete geographic areas with each of the identified environmental issues. The geographic focus was intended to pinpoint some areas within the Region where these issues are of special concern. For example, under the issue of hazardous waste management, we listed New Castle County, Delaware as one geographic focus becasue that area includes a cluster of seven hazardous waste sites listed on the National Priority List for cleanup. This does not mean that the scope of the issue is limited to only New Castle County. Nor was it meant to imply that hazardous waste management is not of concern elsewhere throughout the Region. Hazardous waste management is, in fact, a Regionwide concern, especially in regard to need for disposal capacity.

For each of the EMR priority issues discussed in Part II B. of this Report, geographic focuses were incorporated as appropriate into the discussion under problem assessment. In some cases (e.g., drinking water contamination), no particular geographic area was identified and the issue was considered to have a Regionwide focus. The following page includes a summary of the final list of issues and the associated geographic focuses.

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Region III

Final List of Environmental Priorities

Environmental Issue	Geographic Focus
1. Hazardous Waste Management	Regionwide
A. Site Cleanup	New Castle County (Del.), S.W.Pa, S.E. Pa., N.E. Pa.,
B. Disposal Capacity	Regionwide, especially Baltimore SMSA and W.Pa.
2. Drinking Water and Ground Water Contamination	Regionwide, Southeastern, Pa.
3. Resource Extraction (Mining)	
A. Acid Mine Drainage	West Virginia, Western Pa., and Western Maryland
B. Oil & Gas Production	Northwestern Pa.
4. Toxic Chemical Air Releases	Kanawha Valley (W.Va), Upper Ohio River Basin, New Castle County (Del.), Philadelphia SMSA
5. Ozone Standard Violations	Pennsylvania, especially Philadelphia; I-95 Corridor
6. Surface Water Toxics	Elizabeth River (Norfolk), Baltimore Harbor; Shenango River, Pa.
7. Environmentally Sensitive Areas	Chesapeake Bay; Coastal Flats of Delaware, Maryland, and Virginia; Pocono Mts.
8. Indoor Air Pollution	
A. Radon	Reading Prong (Reading-Allentown area of Pa.)
B. Asbestos	Regionwide
9. Non-Point Source Pollution	Chesapeake Bay, from sources in Md., Va., Pa.
10. Acid Rain	Regionwide

Region III
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Summary of Significant Problems

Rank/Problem	Geographic Scope	Major Impacts	Level of Public Concern	Major Sources	Contaminants Concern
1. Hazardous Waste Management	Regionwide with specific emphasis on:				
A. Site Cleanup	A. Site cleanup - New Castle County, DE Site Discovery - Southwest PA	A. Ground water and drinking water contamination; wide spread and severe	High	A. Abandoned and uncontrolled hazardous waste sites	A. and B. Orga chemicals and solvents, heav metals
B. Disposal Capacity	B. Disposal Capacity - Western PA and Metropolitan Baltimore	B. Cost increases and illegal dumping	High	B. NPL Sites and Small Quantity Generators	
2. Contamination of Drinking Water Systems and Ground Water					
A. Drinking Water Systems	Regionwide	A. 19 million people exposed to potential health risks	High	A. Both Public and private water supply system	A. Bacteria/pat gens, Metals/ organics, Radionuclides
B. Ground Water	Regionwide, particularly southeastern portion of Pennsylvania	B. Contamination of ground water resources which supply drinking water to 9 million people in Region III	High	B. Leaking under-ground storage tanks -RCRA/Superfund sites -Dumpsites -Contamination (spill) incidents -Injection Wells	B. Brine, Volatile organi Nitrates

Region III
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Summary of Significant Problems

Rank/Problem	Geographic Scope	Major Impacts	Level of Public Concern	Major Sources	Contaminants of Concern
3. Resource Extraction (Mining)					
A. Acid Mine Drainage	Pennsylvania, Northern West Virginia, and Western Maryland	-Extensive and severe stream impairment from acids metals and sediment -Wetlands destruction from sediment contamination	Moderate	-Active and abandoned deep and surface coal mines	Acid(ph) Iron Manganese Sediment Toxics (Orga and Inorgani
B. Oil and Gas Production	Northwestern Pa. and West Virginia	-Brine disposal into pits, stream, roads and into shallow basins (blow boxes) causing stream and ground water degradation -Contamination of drinking water supplies due to oil and gas drilling practices	Moderate	-Brine disposal -Oil and gas drilling practices -Oil spills	Brine contai sodium chlor barium, arse strontium, cadmium, iro and sulfates
4. Toxic Chemical Air Releases - Both Routine and Accidential Releases	Regionwide, with special focus on Philadelphia, Baltimore, New Castle County, DE and Kanawha Valley, W.VA	Human health risks from airborne toxic contaminants	High	-Chemical and industrial plant emissions -Hazardous wastes sites -Incinerators -Motor vehicle emissions	Air toxicant

Region III
1985 Environmental Management Report
Summary of Significant Problems

Rank/Problem	Geographic Scope	Major Impacts	Level of Public Concern	Major Sources	Contamina Concern
5. Ozone Standard Violations	Pennsylvania - particularly Philadelphia and four surrounding Counties (Buck, Montgomery, Chester and Delaware)	Human health risks from elevated ozone levels	Low	-Industrial facilities and Automobile emissions	Volatile Organic Compounds
6. Surface Water Toxics	Regionwide, particularly Elizabeth River, VA and Baltimore Harbor	-Surface and drinking water contamination -Aquatic Life -Commerical fishing	Moderately High	Urban and Industrialized discharges	Toxics - -heavy m -organic
7. Loss of Environmentally Sensitive Areas	-Coastal flats of Delaware, Maryland, Virginia -Chesapeake Bay -Pocono Mountains, Pa.	-Water quality degradation -Loss of wildlife and plant habitat -Increased flood risk	Moderately High	Causes -illegal dredge and fill -lack of proper resource identification -agricultural operations -resource extraction -secondary development	N/A

Region III
1985 Environmental Management Report
Summary of Significant Problems

Rank/Problem	Geographic Scope	Major Impacts	Level of Public Concern	Major Sources	Contaminants Concern
8. Non-point Source Pollution (NPS) - Nutrients	Virginia, Maryland Pennsylvania (Chesapeake Bay)	Degradation of aquatic life, commerical fishing and recreation	Moderate	Agricultural runoff	Phosphorus Nitrogen Sediments
9. Indoor Air Pollution					
A. Radon B. Asbestos	Regionwide, especially "Reading Prong" for Radon	Harmful public health risks from exposure	High	A. Radon - decay of naturally occuring uranium in soil	Radon gas
				B. Asbestos - building and insulating materials	Asbestos
10. Acid Rain	Regionwide	Acidification of lakes and streams -adverse effects on aquatic life Declines in forest growth and productivity	High	Emissions from fossil - fueled power plants Automobiles	SO_x NO_x

PART III.

Regional Recommendations For The Agency's 1987-88 Priority List.

PART III. REGIONAL RECOMMENDATIONS FOR THE AGENCY'S 1987-88 PRIORITY LIST

Regions III believes that the current priority list included in the FY 86-87 Agency Operating Guidance is for the most part adequate for the purposes of directing attention to the Agency's most important National environmental problems. We do, nevertheless, suggest the following revisions, based largely on our discussion of Regional problems contained in Part II. We agree with the recent Headquarters suggestion that the list be limited to about twenty major items.

Suggested Revisions

1. Increased emphasis should be placed on those actions which will facilitate state and local development of new hazardous waste disposal capacity. In this regard, current Priority #6 dealing with RCRA regulated hazardous waste disposal alternatives should be strengthened to emphasize the need for National guidance for the Regions and states on development of new treatment, storage, and disposal facilities.

2. Implementation of the National Air Toxics Strategy announced in June, 1985 should be reflected on the list. Planned Strategy actions such as issuance of a List of Acute Hazards, strengthening Reportable Quantities regulations and enforcement, and improving state and local contingency planning should be included. Current Priority #15 dealing with NESHAPS should be included as part of this emphasis, and the entire air toxics issue should be listed as priority #9. Current Priority #9 which addresses compliance with the NAAQS's can be reduced in priority to #15 to accommodate the air toxics emphasis.

3. Promulgation of drinking water standards for currently unregulated contaminants (Priority #13) should be elevated to somewhere in the top ten priorities. Standards for volatile organic compounds should be emphasized.

4. Current Priority #17, which addresses the need for toxics control in water quality criteria and standards, should be considered in the context of Priority #11, which deals with NPDES permit issuance. Priority #17 should be elevated, perhaps, if appropriate, by combining it with Priority #11.

5. Federal Facilities compliance (Priority #23) should be elevated somewhat to reflect its multi-media, cross-program application.

6. Under Priority #24 which deals with PCB compliance, the phrase "and eliminating the use of PCB transformers in high voltage applications" should be added to reflect new PCB removal regulations.

7. Priority #14 dealing with wetlands protection should include emphasis on the Advanced Identification of Disposal sites program.

8. Language should be added to Priority #7, which calls for reducing risks from existing chemicals, which emphasizes the need for improved risk assessment and management techniques, and the identification of risk reduction controls, through studies such as the Philadelphia and Baltimore Integrated Environmental Management Projects (IEMP's).