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Report to Congress on Implementation of Section 112 of the Clean Air Act Amendments of 1990

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1.0 FOREWORD

This report is being submitted to Congress in fulfillment of the requirements of section 112(s) of the Clean Air Act as amended in 1990 (CAA). Section 112(s) requires the United States Environmental Protection Agency (EPA) to submit a status report every 3 years, beginning in 1993, on the measures taken by the EPA and the States to implement the provisions of section 112 of the CAA. Section 112 pertains to emissions of hazardous air pollutants from routine as well as accidental releases. As required by section 112(s), this report includes a summary of standards-setting activities under sections 112(d) and (f), information with respect to costs and compliance with such standards, and discussions of the national urban air toxics program and the accidental release program. In addition, section 112(s) requires the report to include aggregate information from a database on pollutants and sources subject to the provisions of section 112, as well as recommendations of the Chemical Safety and Hazard Investigation Board with respect to the prevention and mitigation of accidental releases.

This report also describes the many other activities the EPA has undertaken since enactment of the CAA to comply with section 112. These include conducting numerous special studies and developing implementation guidance for State and local air pollution control agencies. Other activities that are helping reduce air toxic emissions are also described, such as voluntary programs and air toxics activities under Titles I and II of the CAA.

2.0 EXECUTIVE SUMMARY

I. INTRODUCTION

This report is being submitted to Congress in fulfillment of the requirements of section 112(s) of the CAA. Section 112(s) requires the EPA to submit a status report every 3 years, beginning in 1993, on the measures taken by the EPA and the States to implement the provisions of section 112 of the CAA. Section 112 pertains to emissions of hazardous air pollutants from routine as well as accidental releases. As required by section 112(s), this report includes a summary of standards-setting activities under section 112(d), information with respect to the costs of compliance with such standards, and discussions of the national urban air toxics program and the accidental release program.

Section 112 of the CAA requires EPA to issue, by the year 2000, regulations governing major sources of 189 hazardous air pollutants; perform, or participate in, 13 special studies of national scope; evaluate and update the EPA's risk assessment methodologies; provide guidance to State and local air pollution control agencies on particular provisions of the Act; establish and maintain publicly-available data bases and clearinghouses; initiate voluntary emission reduction programs; and establish a prevention program for accidental releases. The EPA has not met all of the deadlines required by section 112 to date. However, significant progress has been made in all of the areas mentioned above.

In addition to section 112, other efforts the EPA has underway under the authority of the CAA will reduce air toxics emissions. Section 129 of Title III requires EPA to regulate emissions from municipal solid waste incinerators. This regulation will have a significant impact on air toxics emissions from these sources. Title I of the CAA contains provisions requiring the control of volatile organic compounds, and Title II provisions relate to control of mobile source emissions. Actions under both of these Titles will reduce air toxics. The EPA has also initiated a voluntary emissions reduction program - the 33/50 program - which asks companies to voluntarily reduce releases of 17 air toxics to air, land and water. All of these efforts are also discussed in the Executive Summary because all are means to a common end: protection of public health and the environment from the effects of air toxics emissions.

This Executive Summary is divided into ten areas of air toxics activities and provides an overview of each area as well as highlights of some of the EPA's accomplishments in each. The ten areas are:

- Emission Standards,
- Implementation Programs,

- Special Studies/Programs,
- Technical Assistance,
- Regional Activities,
- State Activities,
- Risk Assessment Activities,
- Voluntary Programs,
- Outreach Activities, and
- Titles I and II Air Toxics Accomplishments.

Projects specific to section 112 are described individually in Section 4.0 of this report, including discussions of compliance costs where applicable. Other activities the EPA has undertaken to reduce emissions of air toxics that are not required by section 112 are also described in Section IV of this Executive Summary, but are not included in the detailed descriptions provided in Section 4.0.

II. SECTION 112 REQUIREMENTS OVERVIEW

Section 112 of the CAA requires EPA, over a 10 year period, to issue "maximum achievable control technology" (MACT) standards which cover all major sources of 189 specified hazardous air pollutants (HAP's). The primary consideration in establishing these standards must be demonstrated technology. Costs, non-air quality health and environmental impacts and energy requirements may also play a role in setting these standards. Standards are effective immediately, except that industries may have up to 3 years to comply with a standard for an existing source, according to a schedule established by EPA. If EPA determines, after MACT standards are applied, that additional standards to protect public health and the environment are required to provide an ample margin of safety, EPA will promulgate additional standards.

Other provisions of section 112 require controls on area sources to address the urban air toxics problem, measures to prevent accidental releases, and measures to protect the Great Lakes and coastal waters from atmospheric deposition of air toxics. A voluntary early emissions reduction program is also required to be established. The new amendments also place greater emphasis than in the past on health effects other than cancer and on the prevention of ecosystem damage.

Section 112 also recognizes the considerable role that State and local air pollution control agencies will play in the successful implementation of the CAA. Several provisions require the EPA to provide guidance addressing source modifications, delegation of State programs, and case-by-case equivalency determinations in the event the EPA fails to issue a standard according to the established regulatory schedule. National data bases and clearinghouses for technical and risk assessment

information are also to be maintained to assist State and local agencies and any other interested parties.

III. SECTION 112: THE FIRST TWO YEARS AND WHAT'S AHEAD

This section of the Executive Summary highlights the progress the EPA has made in implementing section 112. While this section highlights certain projects, Section 4.0 of this report summarizes the status and achievements of all section 112 activities. The following areas are discussed here:

- Emission Standards,
- Implementation Programs,
- Special Studies/Programs,
- Technical Assistance,
- Regional Activities, and
- State Activities.

Emission Standards

Although significant actions have been taken since passage of the 1990 CAA, the EPA has not met all of the section 112 deadlines for issuance of emissions standards. Reaching the degree of consensus necessary to issue the rules and to lay the groundwork for effective implementation has proven to be a lengthy process.

To date, three emission standards have been proposed. These standards regulate synthetic organic chemical manufacturing (otherwise known as the Hazardous Organic NESHAP, or HON standard), commercial and industrial dry cleaners (two distinct source categories), and steel coke ovens.

In developing the regulations implementing section 112 and consistent with CAA section 101(c), EPA is committed to promoting pollution prevention approaches. As part of the Source Reduction and Review Project (SRRP), the EPA has identified 17 industrial categories which may be affected by the development of environmental regulations, and has committed to identifying and promoting pollution prevention options as part of the regulatory development process. The emission standards that are being considered for the SRRP include:

- Industrial process cateogry,
- Acrylic fibers/modacrylic fibers,
- Degreasing operations,
- Integrated iron and steel manufacturing,
- Metal products and machinery,
- Paint stripper users,
- Paints, coatings, adhesives manufacturing,
- Paper and other web coatings,

- Pesticide formulating,
- Pharmaceuticals production,
- Plywood/particle board manufacturing,
- Polystyrene production,
- Printing/publishing,
- Pulp and paper production,
- Reinforced plastic composite production,
- Rubber chemicals manufacturing,
- Styrene, butadiene latex and rubber, and
- Wood furniture manufacturing.

Related to the section 112(d) emission standards is the Early Reductions Program required by section 112(i). The Early Reductions Program gives industries an incentive to achieve at least a 90 percent reduction in emissions prior to proposal of an applicable MACT standard. In exchange, the facility would be given 6 additional years to comply with the final emissions standard. This program has the potential to result in substantial emission reductions well before the compliance date for individual section 112(d) standards.

Achievement Highlights

- The proposed HON standard requires reductions in emissions of 149 HAP's and affects nearly 370 chemical manufacturing plants across the nation. The HON standard will reduce HAP emissions from this industry by 80 percent, or an estimated 552,000 tons per year - more than any other air toxics rule to be issued under the CAA. This rule will also reduce volatile organic compounds, which react to form ozone, by 1.1 million tons per year. The proposed rule, announced in October 1992, includes requirements to reduce equipment leaks; these requirements were developed through a regulatory negotiation which included industry, environmental groups, and State representatives. Also reflected in the proposal are the results of dozens of meetings the EPA held with the chemical industry, environmental groups, States, and other Federal agencies.

- Control technology standards for about 3,700 industrial and large commercial dry cleaners were proposed in November 1991 and will be finalized in September 1993. This proposal includes a "consumption cutoffs" provision that will exempt many small dry cleaners and thus minimize the regulatory impacts on small business.

- Regulatory negotiations produced an agreement on regulations to reduce toxic emissions from steel industry coke ovens. These regulations should be finalized in September 1993. The regulatory

negotiation committee included 22 parties representing EPA, States, the steel industry, labor unions and environmental and citizen groups. Use of regulatory negotiation also resulted in more control of emissions than required by the CAA, as well as a lower estimate of compliance costs for industry than was originally anticipated during Congressional debate over the CAA.

- The EPA has initiated work on 35 additional emission standards. These include the emission standards due 4 years after enactment and several that are due 7 years after enactment. Table 1 lists the source categories covered by this ongoing work.

- The final rule for the Early Reductions Program was announced in December 1992. As of July 1993, 91 enforceable commitments have been received and are being reviewed. If all of these commitments are carried out, the resulting reductions in HAP's would total 36 million pounds by January 1, 1994.

Implementation Programs

Nine implementation programs are being developed to assist State and local air pollution control agencies in implementing the requirements of section 112. The EPA is working to develop guidance for State and local agencies and, where necessary, rules establishing EPA policy and requirements. The nine programs are:

- the General Provisions which create the technical and administrative framework for implementing section 112 standards and programs,

- the section 112(c)(1) Source Category List which is an initial list of major and area sources of HAP's,

- the section 112(e) Source Category Schedule for Standards which is a schedule for the regulation of all source categories by November 15, 2000.

- the section 112(g) Modifications rule which requires control technology reviews for constructed, reconstructed, and modified major sources of pollutants,

- the section 112(j) Equivalent Emissions Limitations by Permit rule which requires States to issue operating permits to major sources based on a case-by-case control technology assessment, if the EPA fails to promulgate a standard within 18 months of the scheduled date,

Table 1. Emission Standards Currently Under Development

SOURCE CATEGORY
Aerospace Industry
Auto/Light-Duty Truck
Chelating Agents Production
Chlorine Manufacturing
Chromium Electroplating
Commercial Sterilizers
Electric Arc Furnaces: Carbon/Stainless Steel
Ferroalloys
Halogenated Solvent Cleaning - Degreasing
Iron/Steel Foundaries
Magnetic Tape
Medical Waste Incineration
Oil and Gas Production
Paper and Pulp (Combustion Sources)
Paper and Pulp (Noncombustion Sources)
Petroleum Refinery
Polymers and Resins I
Polymers and Resins II
Polymers and Resins III
Polymers and Resins IV
Portland Cement
Primary Copper
Primary Aluminum
Printing/Publishing
Rubber Chemicals Production
Secondary Lead
Secondary Lead Smelters
Secondary Aluminum
Shipbuilding
Solid Waste Treatment Storage and Disposal Facilities
Stage I (Gasoline Marketing)
Steel Pickling
Wood Treatment
Wood Furniture
Wool Fiberglass

- the section 112(l)(1) State Programs rule which establishes EPA requirements for the approval of State or local air toxics rules or programs, so that the federal air toxics program can be integrated with existing State programs,

- the section 112(l)(2) State Guidance for Implementation of Section 112(r), which provides guidance to States implementing the section 112(r) accidental release provisions,

- the section 112(r) List of Regulated Substances and Risk Management Program, which requires any facility having greater than the established threshold quantity of listed substances to develop a risk management program, and

- the Chemical Safety and Hazard Investigation Board, which will investigate accidental releases resulting in a fatality, serious injury, or substantial property damage.

Achievement Highlights

- In July 1992, an initial list of 174 industrial categories potentially subject to MACT standards was published. The list also includes eight categories of "area sources" which are sources that emit smaller amounts of HAP's than major sources, but were determined by the Administrator to present a threat of adverse effects to human health or the environment warranting regulation under section 112.

- A 10-year schedule for issuing the MACT standards was announced for public comment in September 1992. The draft schedule calls for the first standards to be issued for the synthetic organic chemical manufacturing industry, commercial and industrial dry cleaners, and steel industry coke ovens.

- A rule implementing the section 112(g) Modifications requirements, including a list of the 189 HAP's ranked in order of estimated hazard, has been drafted and is currently undergoing EPA review. The technical support documents for implementing this requirement, including case-by-case control technology assessment, have also been completed and are under EPA review.

- The section 112(l) State Programs rule was proposed on May 19, 1993.

- The section 112(j) rule, the equivalent standard provision was proposed on July 13, 1993.

- The General Provisions were proposed on August 11, 1993.

- Under section 112(r), EPA is required to develop a list of at least 100 chemicals which are known or reasonably anticipated to cause death, injury, or serious adverse effects to human health or the environment in the event of an accidental release. A proposed rule listing 162 substances was announced in January 1993.

Special Studies/Programs

Section 112 requires the EPA to either conduct or participate in 13 special studies on topics ranging from risk assessment methodologies to urban air toxics; work has been initiated on all of them. Several special studies, such as the Hydrogen Fluoride Study, the Hydrogen Sulfide Study and the National Academy of Sciences Study will be completed in 1993. The first in a series of biennial reports on the Great Waters Program and an interim report for the Utility Study will also be submitted to Congress in 1993. The special studies and programs are:

- Atmospheric Deposition to Great Lakes and Coastal Waters (Great Waters Program)
- Urban Area Source Program
- Electric Utilities Steam Generating Units
- Mercury Study
- Mercury Health Effects Study
- National Academy of Sciences Study
- Hazardous Materials Accident Safety Review
- Hydrogen Fluoride Study
- Hydrogen Sulfide Study
- Residual Risk Report
- Coke Oven Production Technology Study
- Publicly-Owned Treatment Works Study
- Mickey Leland Urban Air Toxics Research Center

Achievement Highlights

- The Great Waters Program under section 112(m) is evaluating the deposition of toxic air pollutants to the Great Lakes, Lake Champlain, Chesapeake Bay, and other coastal waters. Master research stations have been established in each of the Great Lakes and the data are being used to develop Lakewide Management Plans. The Chesapeake Bay Atmospheric Deposition Study is providing monitoring data on deposition to this region and other monitoring and research initiatives are either underway or under development for other geographic regions. The 1993 Great Waters report to Congress is on schedule for submission in

November 1993. The report will address sources of air pollutants, relative loading of air pollutants to the Great Waters, and exposure and effects of airborne pollutants in those waters.

- The Urban Area Source Program has a number of activities underway that will assist in drafting the national urban air toxics strategy, due to Congress in 1995. Three major geographical initiatives in Baltimore, Houston, and Chicago have been undertaken to develop improved emission inventories. Ambient air monitoring and receptor modeling, which is a tool for associating emission sources with samples from the ambient air, are also included in these efforts. A series of national surveys has also been commenced to better characterize the emissions of several selected HAP's. The EPA's Office of Research and Development has drafted a research report, which is currently undergoing review, covering ambient monitoring, source characterization, and consideration of atmospheric transformation. The final research report will be published in 1995 to complement the national urban air toxics strategy.

- The Utility Study is being coordinated with the Electric Power Research Institute and the Department of Energy to exchange information related to HAP emissions from utilities and to conduct several emission tests at representative facilities. The initial development of a Fourier transform infrared spectroscopy system has been completed. This system will be used to characterize HAP emissions from utility stacks. Work is also ongoing to design impact analyses and risk assessments. The study is scheduled to be submitted to Congress in November 1995.

- The Mercury Study program is receiving input from numerous interested parties including State agencies, industry and environmental groups, other Federal agencies and scientists in academia. A national emissions inventory for mercury is near completion as well as a health effects summary. Efforts well underway include long-range transport modeling and the enhancement of EPA's indirect exposure model. The Report to Congress, due in November 1994, is on schedule. The National Institute of Environmental Health Sciences has completed a final draft of their findings on threshold levels for mercury health effects as required by section 112(n)(1)(C) of the CAA. This report is on schedule for a November 1993 submittal to Congress.

- In order to provide input to the National Academy of Sciences' Study on risk assessment methodologies, the EPA completed and transmitted a report to the Academy which provided extensive information on air toxics, regulatory case studies, and past and present applications of EPA's risk assessment methods. The Academy currently plans to release its report in October 1993.

- The EPA has also completed a report to Congress entitled "Review of Federal Authorities for Hazardous Materials Accident Safety" as required by section 112(r)(10). The report is currently being reviewed by OMB.

- The reports on hydrogen fluoride and hydrogen sulfide are both being finalized for publication in September and October 1993, respectively.

- The Mickey Leland Urban Air Toxics Research Center has been established and has received $300,000 in funding which will be used to fund research focused on the effects of air toxics on human populations.

Technical Assistance

Section 112(s) requires EPA to maintain a data base on pollutants and sources subject to the provisions of section 112 and to include aggregate information from the data base in each triennial report. Individual data bases have already been established for several of the emissions standards projects. Where applicable, information from these data bases has been included in the project updates in Section 4.0 of this report. In addition, there are efforts underway to expand and enhance EPA's national data base, the Aerometric Information Retrieval System (AIRS), to include air toxics information, specifically for major sources of HAP's. Thus, information collected on the major sources of these pollutants would be stored in one data base. The EPA is also exploring what types of information will be needed for area sources of HAP's and what data base or data bases will be used to manage these data. Subsequent reports on section 112 implementation will include updated information from the data bases.

Section 112(l)(3) of the CAA requires the EPA to maintain an air toxics clearinghouse and centers to provide technical information and assistance to State and local agencies and, on a cost recovery basis, to others on control technology, health and

ecological risk assessment, risk analysis, ambient monitoring and modeling and emissions measurement and monitoring.

Three technical assistance centers and a bulletin board system that deal primarily with air toxics issues are being operated and maintained. These are:

- the Control Technology Center (CTC), which, in 1986, began to provide emission and control technology assistance to State and local agencies as well as industry. The CTC services include a hotline, a computerized bulletin board which provides access to numerous other information systems, in-depth analysis of specific questions and publication of technical guidance on issues of national or regional interest. In early 1992, the CTC became the focal point for coordination of efforts among the four EPA information centers participating in the Federal Small Business Assistance Program. This program provides support primarily to the State small business assistance programs required under section 507 of the CAA. Assistance provided by this program includes information on Federal air pollution standards, air pollution control technologies, air emission testing and monitoring methods, accidental chemical release prevention, hazardous chemical emergency planning, and pollution prevention methods.

- the National Air Toxics Information Clearinghouse (NATICH), which was established in 1984 as a cooperative effort by EPA, the State and Territorial Air Pollution Program Administrators, and the Association of Local Air Pollution Control Officials. Components of NATICH include a computerized data base containing State and local information on air toxics and air toxics programs, a bimonthly newsletter, a telephone helpline, and publication of various special reports.

- the Air Risk Information Support Center (Air RISC), established in 1988, assists State and local agencies, other Federal agencies, and the public with questions concerning risk, exposure, and health effects of air pollutants. Air RISC serves as a focal point for providing health effects information primarily through operation of a hotline staffed by EPA scientists. The Air RISC also publishes special reports such as citizen's guides and publications dealing with specific pollutants.

- the EPA Clean Air Act Amendments (CAAA) computer bulletin board system that contains information on air toxics. The bulletin board is easily accessed with a computer and modem and stores information such as text of recently-signed air toxics rules, policy and guidance documents, and summaries of air toxics and other provisions.

The EPA is also currently operating two information centers which deal with ambient modeling and monitoring and emissions measurement and monitoring. These are the Emissions Measurement Technical Information Center (EMTIC) and the Ambient Monitoring Technical Information Center (AMTIC).

Achievement Highlights

- Services provided by the CTC were accessed over 15,000 times in fiscal year 1992. This includes over 2,700 calls to the hotline and more than 5,800 requests for CTC documents. This includes over 300 requests for documents specifically prepared for small businesses. The CTC bulletin board system was accessed more than 4,400 times, while the Reasonably Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate (RACT/BACT/LAER) Clearinghouse Information System was accessed almost 2,000 times.

- Since enactment of the CAA, NATICH has expanded its bulletin board system to include the NATICH Newsletter, files from the Toxics Release Inventory, and a list of annual publications from the Office of Research and Development. Also since enactment, the NATICH helpline has received more than 1,200 calls and the NATICH data base of State and local air toxics information was accessed more than 5,400 times. The NATICH Newsletter is currently distributed to approximately 2,100 subscribers.

- The Air RISC hotline has seen demand for its services increase by over 30 percent since enactment of the CAA. The hotline staff has responded to over 3,500 calls since 1988 with the average number of calls received numbering about 900 per year. The Air RISC has also expanded its services to include all air pollutants rather than just air toxics.

- The EPA's AIRS data base is being expanded to accommodate air toxics information. The plan is for States to provide information on pollutants and sources available from their files and for EPA to provide information from source surveys. With these

enhancements, the EPA expects the data base to become a national repository of air toxics information.

EPA Regional Activities

The ten EPA Regional offices have all made implementation of section 112 a high priority. Significant efforts have focused on conducting outreach activities for the Early Reduction program, including workshops, guidance materials, and numerous meetings and presentations. The outreach activities have included industry as well as the States in the various Regions. The Regional offices are also working with individual States to ensure that the necessary State legislative authority exists to implement and enforce the section 112 requirements. Regional office staff are also extensively involved in EPA work groups that are working to interpret and implement the CAA provisions.

State Activities

Major efforts at the State and local level since enactment of the CAA have focused on how best to integrate the new CAA requirements into existing State and local air toxics programs. Representatives from State and local agencies are active participants on informal EPA work groups for every section 112 program and emission standard with emphasis on the Early Reductions Program, section 112(g) Modifications, and section 112(l) State Programs. Considerable effort is also being expended on helping the States develop rules to expand their legal authority to accept delegation of section 112 requirements.

IV. BEYOND SECTION 112: OTHER AIR TOXICS ACTIVITIES

Although section 112(s) requires the body of this report to address only ongoing section 112 air toxics activities, the EPA is including discussion of how it is implementing other programs to reduce emissions of air toxics. This section of the Executive Summary highlights several of these activities. The following areas are discussed here, but are not included in the detailed descriptions in Section 4.0 of this report:

- Risk Assessment Activities,
- Outreach Activities,
- Voluntary Programs, and
- Titles I and II Air Toxics Accomplishments.

Risk Assessment Activities

Although the more immediate focus of Title III is on development of control technology-based emission standards, the EPA also has several efforts underway to improve the EPA's risk assessment capabilities. These efforts range from acquiring

better health effects data to improving exposure models. The EPA will then be prepared to meet the provisions of section 112(f) which requires the EPA to evaluate whether additional standards are necessary to protect human health and the environment after application of section 112(d) controls. The risk assessment activities currently underway include:

- development of health effects benchmarks to evaluate short-term exposures,
- development of a tiered modeling approach (level of modeling/monitoring increases as available data increases) for conducting risk assessments,
- revision of the EPA's cancer guidelines,
- toxicity testing efforts, being performed by EPA's Office of Prevention, Pesticides and Toxic Substances, to generate needed health data for toxic pollutants, and
- improvement of EPA's exposure models.

Achievement Highlights

- The EPA's exposure modeling capabilities have been significantly improved by adding a feature that allows better characterization of uncertainties associated with risk estimates.
- A tiered modeling approach for conducting risk assessments was published in February 1992.
- A pilot study to write a test rule for 16 HAP's is in progress to determine if testing options under the Toxics Substances Control Act would provide sufficient health data for CAA purposes.
- Revisions to the EPA's cancer guidelines have been drafted and are undergoing EPA review.

Voluntary Programs

In addition to the Early Reductions Program discussed above, the EPA's Office of Prevention, Pesticides and Toxic Substances has initiated another voluntary program. The 33/50 project, begun in February 1991, asks companies to voluntarily reduce releases of 17 pollutants to the air, water, and soil.

Achievement Highlights

- As of July 1993, 1157 companies had pledged their support for the 33/50 program by agreeing to reduce their releases of the 17 chemicals by 354 million pounds.

Outreach Activities

The EPA has devoted considerable effort to outreach activities beyond providing the technical assistance required by section 112(l). For example, the EPA developed and sponsored the Hazardous Air Pollutants Implementation Workshop for State and local agencies and a workshop highlighting risk assessment issues.

Achievement Highlights

- The EPA developed and sponsored the Hazardous Air Pollutants Workshop which dealt specifically with section 112 issues. The workshop was attended by 240 participants with representatives from 37 State agencies, 22 local agencies, and all ten EPA regional offices. Also in 1992, a workshop was convened to facilitate discussion between EPA and State and local agencies on risk assessment issues. Three EPA offices were represented along with nine State and local agencies. As a result of this workshop, EPA now hosts a monthly conference call on risk assessment issues which is open to all State and local agencies and EPA Regional offices.

Titles I and II Air Toxics Accomplishments

In addition to Title III, Titles I and II of the CAA contain provisions that, when implemented, will also serve to reduce air toxics emissions. Title I deals with attainment and maintenance of the national ambient air quality standards. For geographical areas that do not achieve a national ambient air quality standard (called nonattainment areas), Title I includes a system that classifies the areas by the severity of the ozone pollution within their borders. In order of increasing severity, the classifications are marginal, moderate, serious, severe, and extreme. Title I requires EPA to publish Control Techniques Guidelines (CTG's) for several source categories. The CTG's describe reasonable achievable control technologies (RACT) effective in reducing emissions of volatile organic compounds (VOC's) which react to form ozone. Because most HAP's are also VOC's, concomitant control of HAP's will generally occur when the CTG's are implemented. Similarly, numerous provisions under Title II of the CAA will significantly reduce air toxics

emissions from mobile sources. For example, requirements for reformulated gasoline will reduce toxic emissions by at least 15 percent by 1995, and 20 percent by the year 2000. Reductions in toxic emissions will also be realized from vehicle inspection and maintenance programs, reductions in evaporative emissions and diesel particulate emissions, and clean-fuel vehicle programs.

Achievement Highlights

- Significant progress has been made on 11 CTG documents. Eight CTG's are in the process of being finalized, and three others are being coordinated with work ongoing to develop national emission standards for the same source categories. The status of the CTG's is summarized in Table 2.

- States were required to submit as part of their Title I State implementation plans (SIP's) VOC RACT rule corrections by May 15, 1991, for all ozone nonattainment areas rated marginal and above. These corrected rules now have tighter limits or are more easily enforced. The corrections cover VOC source categories for which EPA had issued CTG's prior to the CAA and other major sources of VOC. This has resulted in greater VOC emission reductions.

- States were required to submit, as part of their Title I SIP's, VOC "RACT catch-up" rules by November 15, 1992, for all moderate and above ozone nonattainment areas. Rules had to cover VOC source categories for which EPA had issued CTG's prior to the CAA and other major sources of VOC. These rules will shortly result in VOC reductions from new VOC rules that were never previously required in new nonattainment areas or new portions of existing nonattainment areas.

- States were required to submit, as part of their Title I SIP's, Stage II (vehicle refueling) vapor recovery rules by November 15, 1992, for all moderate and above ozone nonattainment areas. Moderate areas may eventually not be required to install Stage II vapor recovery since EPA plans to issue regulations for onboard refueling controls for new vehicles. Even so, serious and above ozone nonattainment areas were to have adopted the program and will shortly begin experiencing VOC emission reductions from the controls.

- The EPA has implemented reformulated gasoline initiatives to reduce motor vehicle pollut (including air toxics). In July 1991, April 1992, and February 1993, standards were proposed addressing several

different aspects of the reformulated gasoline regulations which, as described above, will significantly reduce emissions of toxic air pollutants.

- Final rules announced in 1991 that affect the sulfur content of diesel fuel will substantially cut diesel particulate pollution from urban buses. The EPA also finalized rules in March 1993 for urban buses that will reduce diesel particulate emissions (including HAP's that are particulates) 95 percent from uncontrolled levels.

- Vehicle inspection and maintenance programs, required in certain ozone nonattainment areas were finalized in November 1992. These programs will reduce emissions of VOC's (including HAP's) by 5 to 30 percent.

- A study on motor vehicle-related air toxics, required by section 202(6) of the CAA, was finalized on April 30, 1993. Section 202(6) also requires EPA to promulgate regulations by May 15, 1995 that apply at a minimum to benzene and formaldehyde.

Table 2. Status of Control Techniques Guidelines Documents

CTG Source Category*	Status (as of July 1993)
SOCMI Distillation	Final document scheduled for publication in Summer 1993.
SOCMI Reactors	
Industrial Wastewater	Draft in OMB review.
Volatile Organic Liquid Storage Tanks	
Batch Processes	Draft in final EPA review, prior to submittal to OMB.
Offset Lithography	
Plastic Parts - Auto	
Plastic Parts - Other	
Wood Furniture	Being coordinated with section 112 standards due in November 1994.
Aerospace	
Shipbuilding	

*SOCMI means synthetic organic chemical manufacturing industry.

3.0 INTRODUCTION

Section 112 of Title III of the CAA requires the EPA to regulate emissions of hazardous air pollutants (HAP's), to conduct various studies pertaining to air toxics emissions and the effects of exposure to those emissions, and to establish guidance for the implementation of the CAA through State programs. This report, required by section 112(s), describes the activities the EPA has undertaken and the progress that has been made toward implementing the provisions of section 112.

Section 112(s) requires that EPA submit to Congress a comprehensive report every 3 years on the EPA's efforts to implement the provisions of section 112. The report is specifically to include information from a data base on pollutants and sources subject to section 112 as well as a description of the EPA's progress in establishing emission standards and the compliance costs of such standards. It should also provide information on the development and implementation of the national urban air toxics program and recommendations of the Chemical Safety and Hazard Investigation Board on issues concerning accidental releases of air toxics.

This is the first section 112(s) report and covers section 112 activities from November 1990 through July 1993. Numerous activities associated with implementing the CAA are highlighted in the executive summary; the remainder of the report discusses only provisions specific to section 112 of the CAA. Limited information concerning the data base and compliance costs of emissions standards is available at this time. These topics will be discussed more fully in subsequent reports.

This report is divided into six sections. Sections 1.0 and 2.0 contain the Foreword and the Executive Summary. Following this introduction (Section 3.0), Sections 4.0, 5.0, and 6.0 consist of project status reports, the EPA Regional Office activities, and State activities, respectively.

Section 4.0 is further subdivided into emission standards, implementation programs, special studies/programs, and technical assistance. Each subsection consists of individual status reports on each provision.

Subsection 4.1 describes the emission standards the EPA is developing to control the release of HAP's. The emission standards that are required by 1992 include standards to regulate synthetic organic chemical manufacturers, commercial and industrial dry cleaners, and steel coke ovens.

The EPA is also developing several programs to aid State and local air pollution control agencies in implementing section 112. These are discussed in Section 4.2 and include section 112(g)

Modifications, section 112(j) Equivalent Emissions Limitation by Permit, and section 112(l) State Programs.

Subsection 4.3 of this report provides an update of each special study, special program, or Report to Congress required by the CAA. Examples are the Urban Area Source Program, Atmospheric Deposition to the Great Lakes and Coastal Waters (the Great Waters Program), the Utilities Study, and the Mercury Study. Some of the studies, such as the National Academy of Sciences Study and the Coke Oven Production Technology Study are to be done by agencies other than the EPA, or by the EPA in conjunction with other agencies. Status reports for these studies are included as well.

Under section 112(l) of the CAA, EPA is required to maintain an air toxics clearinghouse and centers to provide technical information and assistance to State and local agencies. The EPA currently operates an air toxics data clearinghouse plus two technical assistance centers, and an electronic bulletin board, which fulfill this provision. Each of these is described in subsection 4.4.

The last two Sections, 5.0 and 6.0, summarize the section 112 activities being conducted by the EPA Regional Offices and State air pollution control agencies, respectively.

SECTION 4.0

PROJECT STATUS REPORTS

4.1 EMISSION STANDARDS

- Hazardous Organic NESHAP (112(d))
- Coke Ovens (112(d)(8), 112(i)(8))
- Perchloroethylene Dry Cleaning (112(d))
- Early Reductions Program (112(i)(5))

Paragraph Number and Subject: Section 112(d) Hazardous Organic NESHAP

National Emission Standards for Hazardous Air Pollutants for Source Categories: Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry and 7 Other Source Categories]

Statutory Requirements:	Promulgate 2 years after enactment of the CAA.
Due Date:	November 15, 1992
Proposal Date:	December 31, 1992 (57 FR 62608)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	February 28, 1994 (by Court order)

Project Status

The HON will reduce organic HAP emissions from chemical manufacturing processes in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The proposed rule applies to the production of about 400 of the 660 chemical products produced by SOCMI. To be subject to the HON, a chemical manufacturing process must produce as a primary product one of the SOCMI chemicals listed in the rule and have an organic HAP as either: (1) a product, by-product, co-product, or intermediate, or (2) a reactant. The proposed rule only applies to sources that are considered "major sources" under section 112(d) of the CAA. The equipment leak provisions of the HON would also apply to major sources operating any of the following processes: styrene/ butadiene production; polybutadiene production; chlorine production; pesticide production; chlorinated hydrocarbon use; pharmaceutical production; and miscellaneous butadiene use.

The proposed rule is estimated to reduce HAP emissions by approximately 475,000 megagrams/year (522,500 tons/year) and to reduce volatile organic compounds by 986,000 megagrams/year (1,085,000 tons/year). Total nationwide capital costs due to the proposed rule are estimated to be about $347 million (1989 dollars). Total annual costs are estimated to be $182 million (1989 dollars).

The statutory deadline was not met due to a number of reasons including complexity of the rule, innovative regulatory strategies, and difficult issues to be resolved. This rule is one of the most complex ever developed by EPA. This is the EPA's first attempt to apply market-based principles to air toxics

emission standards. The issues raised by this rule (e.g., emissions averaging) required many difficult negotiations since they do not have clear technical, policy, or legal resolutions.

Paragraph Number and Subject:	**Section 112(d) Perchloroethylene Dry Cleaning**
Statutory Requirements:	Promulgate 2 years after enactment of the CAA
Due Date:	July 15, 1993
Proposal date:	December 9, 1991 (56 FR 64382)
Promulgation date:	Not yet promulgated
Projected Promulgation Date:	September 13, 1993 (by Court order)

Project Status

This rule would reduce the release to the air of the dry cleaning solvent perchloroethylene (perc). The main sources of perc emissions from dry cleaning are from process vents and fugitives. This rule would require the use of a refrigerated condenser, and under special circumstances, a carbon adsorber as a control device to capture and recycle perc from process vents, thus reducing emissions by 95 percent at each controlled process vent. Perc emissions from fugitive sources such as open machine doors, open containers of perc, and equipment leaks would be minimized by a pollution prevention program of good work practices that would require dry cleaners to keep the machine doors shut, to keep containers of perc closed, and to find and repair equipment leaks.

Because of economic impact concerns, the smaller business would be exempt from process vent control. Exempting these smaller sources exempts about half the dry cleaning operations, but still controls 97 percent of the potential process vent emissions.

There are remaining issues that we will take additional comment on after the rule is promulgated. The first is what more the EPA should do about indoor air contamination from dry cleaners. The second is what can the EPA do about discharges from dry cleaners into sewers that contaminate ground water with perc.

Paragraph Number and Subject:	**Section 112(d)(8) and (i)(8) Coke Ovens**
Statutory Requirements:	Promulgate MACT and LAER standards by December 31, 1992. Promulgate work practice standards with industry compliance by November 15, 1993.
Due Date:	December 31, 1992
Proposal Date:	December 4, 1992 (57 FR 57534)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	September 30, 1993

Project Status

The coke oven standard was developed through a regulatory negotiation process, which formally started in January 1992 and ended when the Committee signed an agreement on October 28, 1992. The coke oven standard was proposed in the Federal Register on December 4, 1992. A public hearing was held on January 15, 1993, and the public comment period ended February 16, 1993. No major changes to the rule are anticipated; however, some last minute issues have delayed promulgation until September 1993.

The coke oven rule proposes standards for the control of coke oven emissions from all new and existing coke oven batteries in the iron and steel industry. The standards would apply to visible emissions from charging, door leaks, and topside leaks and to coke oven emissions from bypass bleeder stacks. Provisions for daily monitoring and work practice requirements also are included in the proposed standards. Method 303, "Determination of Visible Emissions from By-product Coke Oven Batteries," and Method 303A, "Determination of Visible Emissions from Nonrecovery Coke Oven Batteries" also are proposed.

At the current level of control, coke oven batteries emit an estimated 1660 megagrams (Mg)/year (yr) of coke oven emissions; of which 750 Mg are from the doors, lids, offtakes, and charging; and 850 Mg are from the by-pass stacks. The MACT and lowest achievable emission rate (LAER) standards will result in reductions of coke oven emissions from the doors, lids, offtakes and charging ranging from 475 to 670 Mg/yr, a 66 percent to 90 percent reduction. Flares are required to control emissions from the by-pass stacks, and these will eliminate at least 98 percent of the emissions.

In order for the coke oven industry to comply with these standards, they must increase their annualized costs by an estimated $84 million by 1998, which is the LAER compliance date. Most of the industry has indicated a preference for the LAER track.

Paragraph Number and Subject: Section 112(i)(5) Early Reductions

Statutory Requirements:	Grant section 112(d) compliance extensions to sources that achieve a 90 percent reduction in hazardous air pollutant emissions (95 percent for particulate HAP's) prior to proposal of the section 112(d) standard from a base year not earlier than 1987.
Due Date:	No statutory due date
Proposal Date:	June 13, 1991 (56 FR 27338)
Promulgation Date:	December 29, 1992 (57 FR 61970)

Project Status

The early reductions provisions would allow an existing source to obtain a 6-year extension of compliance with an emission standard promulgated under section 112(d) of the act if the source has achieved an emission reduction of 90 percent or more of HAP's (95 percent or more for particulate HAP's) by certain dates. The reduction must be achieved by the proposal date of an applicable section 112(d) standard, with the following exception. The reduction may be achieved after the standard is proposed (but no later than January 1, 1994) if the source makes an enforceable commitment before the standard's proposal date to achieve the reduction.

These provisions of the CAA and the proposed rule to implement them have the potential for resulting in substantial emission reductions well before the compliance date for section 112(d) standards. In addition to the environmental benefits, there would be economic benefits for participating sources since they would have more time to develop compliance strategies for section 112(d) standards and choose the most cost-effective and economically attractive means to reduce their emissions of hazardous air pollutants. Because any source can enter the program, and the program is available for a decade, it is impossible to assess with certainty the industries that would take advantage of the provision or determine the impact.

The final rule has been signed and appeared in the Federal Register on December 29, 1992 (57 FR 61970). Ninety-one submittals have been received and are in the process of being reviewed. Two have been approved.

4.2 IMPLEMENTATION

PROGRAMS

- General Provisions
- Source Category List (112(c)(1))
- Source Category Schedule (112(e))
- Modifications (112(g))
- Equivalent Emission Limitations by Permit (112(j))
- State Programs (112(l))
- State Guidance for Accidental Release Program (112(r)(2))
- Accidental Release Prevention - List of Regulated Substances (112(r)(3))
- Chemical Safety and Hazardous Investigation Board (112(r)(6))
- Accident Prevention Regulation/Risk Management Plan Provisions (112(r)(7))
- Hazardous Materials Accident Safety Review (112(r)(10))

Paragraph Number and Subject: General Provisions

Statutory Requirements:	There is no statutory requirement to develop General Provisions.
Due Date:	Should be promulgated before, or with, the first MACT standard under section 112.
Proposal Date:	August 11, 1993 (58 FR 42760)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	February 28, 1994 (by Court order)

Project Status:

To facilitate the implementation of emission standards and programs that will be established pursuant to section 112 of Title III of the CAA of 1990, EPA has proposed a rulemaking to establish General Provisions (August 11, 1993; (58 FR 42760)). The General Provisions would create the technical and administrative framework for implementing section 112 standards and programs. The General Provisions would apply to all stationary sources that will be regulated by standards set under amended section 112, although individual standards can override the general provisions when it is appropriate.

The General Provisions would serve as the primary vehicle for informing owners and operators of their basic compliance responsibilities and of the administrative and enforcement responsibilities of EPA. They also would eliminate redundancy in general information that otherwise would have to be repeated each time a standard is promulgated. In this regard, the General Provisions would allow cost-efficient, simplified implementation of future emission standards by establishing a consistent set of basic requirements for all source categories.

The General Provisions would impose no environmental, economic, or energy impacts until emission standards for source categories are promulgated. Recordkeeping and reporting burdens associated with the General Provisions will be estimated for each standard as it is developed.

Paragraph Number and Subject:	**Section 112(c)(1) Source Category List**
Statutory Requirements:	By November 1991, publish list of categories of major and area sources for which MACT or Generally Available Control Technology (GACT) standards will be established according to a schedule published under section 112(e).
Due Date:	November 15, 1991
Preliminary Draft Published:	June 21, 1991 (56 FR 28548)
Initial List Published:	July 16, 1992 (57 FR 31576)

Project Status

This action publishes an initial list of categories of major and area sources of HAP's, as required under section 112(c)(1) of the CAA. The statute requires the EPA to promulgate regulations, over the 10 years following amendment of the CAA, establishing emission standards for each listed category of major sources and area sources. The initial list includes 174 categories.

The EPA considers the listing of categories of sources under section 112(c)(1) to be an ongoing process. Under section 112(c)(1), the EPA is obligated to revise the list if appropriate, in response to public comment or new information, from "time to time, but no less often than every 8 years." The EPA intends to maintain the list as part of the regulatory development process of establishing emission standards, and may revise the list to reflect any deletion determinations resulting from the source category deletion process, or other potential changes to the list such as additions of new categories, or subcategorization of existing source categories.

Paragraph Number and Subject:	**Section 112(e) Source Category Schedule for Standards**
Statutory Requirements:	The EPA shall schedule the listed source categories from section 112(c) into four different timeframes assuring that standards are promulgated for 40 source categories by November 15, 1992, 25 percent of listed source categories by November 15, 1994, 50 percent by November 15, 1997, and 100 percent by November 15, 2000.
Due Date:	November 15, 1992
Draft Published for Comment:	September 24, 1992 (57 FR 44148)
Final Publication:	Not yet published
Projected Final Publication:	November 15, 1993 (by Court Order)

Project Status

The Draft Schedule for Standards was published in the Federal Register on September 24, 1992 (57 FR 44148). A 30-day public comment period was provided which ended on October 26, 1992. Eighteen public comments were received. The comments primarily addressed four areas: flexibility to amend the schedule after it is published, the source category ranking system, scheduling decisions for a few specific source categories, and the consideration of environmental effects. Commenters supported the CAA interpretation that EPA has some flexibility to amend the schedule after it is published in the Federal Register. Several commenters identified limitations and weaknesses of the source category ranking system, but supported its use as a prioritization tool for developing the schedule. Two commenters suggested that the EPA should also consider environmental effects when prioritizing the source categories. In response to this latter comment, a technical effort has been completed which ranks the source categories based on a few ecological criteria including bioconcentration, aquatic toxicity, partitioning to various media, and persistence. The final schedule is expected to be very similar to the draft schedule, although there will be some changes. The final Schedule for Standards is being developed, and is expected to be approved by the EPA work group in October 1993.

Paragraph Number and Subject: Section 112(g) Modifications

Statutory Requirements:	The EPA is required to publish guidance for the implementation of section 112(g) of the CAA, which contains requirements for constructed, reconstructed, and modified major sources of hazardous air pollutants.
Due Date:	May 1992
Proposal Date:	Not yet proposed (projected proposal January 1994)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	January 1995

Project Status

Section 112(g) affects all major sources of HAP's, and thus affects a wide variety of industries. Section 112(g) requires control technology reviews for constructed, reconstructed, and modified major sources of pollutants listed in section 112(b). Modifications are defined as a physical change or change in the method of operation at a major source that increases actual emissions above a de minimis level. Increases in HAP emissions are not considered a modification if they can be offset by equal or greater decreases in other pollutants which represent a greater hazard. Furthermore, HAP's "with no safety threshold of exposure" may only be offset by other such "non-threshold" pollutants. Therefore, threshold and non-threshold pollutants must be identified and are subject to offsetting requirements.

The act requires EPA to publish guidance for implementing the requirements of section 112(g) within 18 months of enactment. The guidance should identify, to the extent practicable, the relative hazard to human health of each HAP listed in section 112(b). Once established, this ranking will be used to evaluate proposed offsets and to determine whether decreases in emissions are "more hazardous" than increases being offset.

After the effective date of a permit program under Title V in any State, no person may modify a major source of HAP's unless MACT emission limitations will be met. If MACT has not already been established by the EPA, then a case-by-case MACT determination must be made. The Administrator (or State) is to establish reasonable procedures for assuring that the

requirements applying to modifications under this section are reflected in the permit. The EPA also intends to publish guidance for case-by-case MACT determinations.

The EPA formed a work group for section 112(g) guidance in January 1991. The 112(g) effort has required that the work group address a number of difficult regulatory issues, including:

- the definition of a "constructed major source";
- the establishment of de minimis emission rate for 189 HAP's;
- the development of a procedure to be used in determining whether offsetting emission decreases are "more hazardous" than emission increases; and
- the establishment of procedures for case-by-case control technology determinations.

In addressing these complex and contentious issues, the EPA staff have undertaken extensive outreach efforts to solicit input from interested parties in industry, environmental groups, and State and local regulatory agencies. These outreach efforts have delayed development of the guidance, but should improve implementation of the final rule.

Paragraph Number and Subject:	**Section 112(j) Equivalent Emission Limitations by Permit**
Statutory Requirements:	Beginning 18 months after the Agency has missed a promulgation deadline for a MACT standard, all major sources of toxic air emissions must submit permit applications containing case-by-case MACT emission limits. These emission limits must be at least as stringent as the federal MACT standard would have been. The EPA is required to set out specific provisions for States and sources to follow in implementing these case-by-case equivalent emission limitations by permit.
Due Date:	Statutory due date was May 1992.
Proposal Date:	July 13, 1993 (58 FR 37778)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	March 1994 (by Court order)

Project Status

The section 112(j) rulemaking was proposed on July 13, 1993. The formal public comment period will end in late August. Public comments will be reviewed in the preparation of a final rule.

These provisions will apply to all major sources of toxic air emissions in States that have approved permit programs. The earliest they can take effect under the CAA is May 1994. The EPA's rule will provide guidelines for permit applications, review, and approval; will state requirements for new and existing sources; and will incorporate guidelines for making case-by-case MACT determinations.

KEY ISSUES:

- Overlap with CAA section 112(g) modifications provisions regarding rules for constructed and reconstructed sources as well as existing sources, and incorporation of guidance for case-by-case MACT determinations.

- Coordination with Part 70 permit provisions, Part 63 general provisions, and CAA section 112(l) State program approval provisions.

- Coordination of case-by-case MACT requirements with the requirements of subsequent federal MACT standards.

Paragraph Number and Subject:	**Section 112(l)(1) State Programs**
Statutory Requirements:	Section 112(l) requires the EPA to develop guidance for the approval of State programs for implementation and enforcement of section 112 rules when such State programs are no less stringent than the Federal program.
Due Date:	November 15, 1991
Proposal Date:	May 19, 1993 (58 FR 29296)
Promulgation Date:	Not yet promulgated
Projected Promulgation Date:	November 15, 1993 (by Court order)

Project Status

The requirements of this section will be implemented through both guidance and a formal rulemaking. The rule as proposed on May 19, 1993 (58 FR 29296), includes a broad range of input from State and local agencies and from industry and environmental groups through the Clean Air Act Advisory Committee.

The EPA expects to meet the court-ordered deadlines. At the time of promulgation of the section 112(l) rule, additional guidance will also be published to address the remaining requirements of section 112(l).

The primary effect of implementing section 112(l) will be to make State or local rules or programs federally enforceable in lieu of otherwise applicable Federal rules, thereby eliminating the need for States to implement and enforce and sources to comply with 2 separate sets of rules. The main effort in this regard is the development of procedures for determining whether a State or local rule or program is "no less stringent" than a Federal rule and, therefore, can be approved.

Section 112(l) guidance will also address the registration of facilities covered by the section 112(r) list of substances, the High Risk Point Source Program which includes pollutants beyond those listed under section 112(b), technical assistance to States and others, and air toxics grants.

Paragraph Number and Subject:	**Section 112(l)(2) State Guidance for Implementation of Section 112(r)**
Statutory Requirements:	Section 112(l)(2) requires EPA to publish guidance to assist States in developing State section 112 programs, including section 112(r).
Due Date:	November 15, 1991
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 1993

Project Status

A work group which includes five representatives from State agencies, has been formed to develop State program guidance for the implementation and enforcement of section 112(r). This guidance will provide information regarding current and historical chemical accident prevention activities; the relationship of section 112(r) to other requirements of the CAA, as well as other Federal programs; and approaches a State may utilize in developing their accidental release prevention program. The objective of this guidance is to provide the State with sufficient information to develop an accident release prevention program for submittal and approval by EPA. This guidance is intended to augment regulations developed under Title V, sections 112(l) and (r) of the CAA.

Specific guidance to States concerning the section 112(r) requirements cannot be accurately provided until the Accidental Release Prevention regulations are developed. The guidance does not directly impact any industries and is expected to be released in draft form upon the publication of the proposed section 112(r) rules and be finalized when the rules are promulgated.

Paragraph Number and Subject:	**Section 112(r)(3) List of Regulated Substances and Threshold for Accidental Release Prevention; Requirements for Petition under Section 112(r) of the Clean Air Act as Amended.**
Statutory Requirements:	The EPA is required to develop a list of at least 100 substances and threshold quantities which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment.
Due Date:	November 15, 1992
Proposal Date:	January 19, 1993 (58 FR 5102)
Promulgation Date:	Not yet promulgated
Projected Completion Date:	January 15, 1994 (by Court order)

Project Status

A proposed rule to list 162 chemicals and their respective threshold quantities is currently going through public review. A Federal Register notice was published on March 9, 1993. This notice extended the comment period until May 14, 1993 and scheduled a public hearing for April 12, 1993.

Facilities having greater than the threshold quantity of a regulated substances will be required to develop a risk management program specified under section 112(r)(7). The only costs associated with the list rulemaking would result from the petition process. The costs for the regulated community will be addressed under the risk management program regulation.

Paragraph Number and Subject:	**Section 112(r)(6) Chemical Safety and Hazard Investigation Board**
Statutory Requirements:	Section 112(r)(6) establishes an independent five-member Board to investigate or cause to be investigated accidental releases resulting in a fatality, serious injury, or substantial property damage. The five members, including a chairperson, are to be appointed by the President, with the advise and consent of the Senate. The Board is also to issue periodic reports to Congress and Federal, State, and local agencies concerning steps to be taken to reduce the likelihood or consequences of accidents.
Due Date:	Or report on recommendations on the use of hazard assessments in preventing accidental releases of extremely hazardous substances was to be published 18 months after enactment of the CAA; a second report to officials at the EPA and Occupational Safety and Health Administration (OSHA) regarding recommendations in the adoption of regulations governing risk management plans was due 24 months after the enactment of the Amendments. The Board is also to submit annual reports to Congress with regard to recommendations made and investigations performed during the year.
Proposal Date:	Not Applicable
Promulgation Date:	Not Applicable
Projected Completion Date:	[Board should be nominated in 1993 with reports to follow, thereafter].

Project Status

The Board was not nominated during the previous administration. The EPA Administrator has indicated her interest in moving forward with the Board and will work with the White House on the nominations process.

The EPA has also reinstituted work on transition issues to provide the Board with information which would allow them to begin working expeditiously. These efforts began in 1991, when EPA appointed a transition team under the direction of the Chemical Emergency Preparedness and Prevention Office (CEPPO) in the Office of Solid Waste and Emergency Response, to begin preparing for establishment of the Board. The team has developed draft documents such as draft operating procedures, outlines for the Memorandum of Understanding between appropriate agencies, draft policies for areas such as investigation guidelines or protocols, the Freedom of Information Act and the Sunshine Act, and prepared a briefing book. The EPA is also taking steps to provide administrative support to the Board if needed. These efforts were coordinated with the OSHA. All of these activities are intended to provide the Board with a starting point from which it could quickly begin its important mission. They are not intended to preempt the Board's prerogatives to develop its own organizational structure or style. The EPA is prepared to assist and support the Board administratively when it begins its work and to cooperate fully by sharing information and providing such technical assistance as the Board requires.

While required reports were not submitted, EPA has continued related work to implement its responsibilities under section 112(r) of the Clean Air Act. When the Board is nominated, it will have access to the substantial documentation, research and information developed by EPA regarding both hazard assessments and the design and development of Risk Management Plans. This should substantially reduce the time required to complete the two reports, once the Board is functional.

The deadlines in section 112(r)(6) were missed because the Board members were not nominated.

Paragraph Number and Subject:	**Section 112(r)(7) Accident Prevention Regulation and Risk Management Plans for Accidental Release Provisions under the CAA of 1990.**
Statutory Requirements:	Section 112(r)(7) requires EPA to promulgate regulations that require facilities handling a regulated substance above a threshold quantity to prepare and implement risk management plans. The plans must include a hazard assessment, a prevention program, and an emergency response program to be submitted to State and local planning organizations, the Chemical Safety and Hazard Investigation Board, and to be made available to the public.
Due Date:	November 15, 1993
Proposed Date:	Not yet proposed
Promulgated Date:	Not yet promulgated
Projected Completion Date:	November 15, 1993

Project Status

A draft of the proposed risk management plan rule was sent to OMB for review in May 1992. Supplementary information was sent to OMB in July 1992 and March 1993 and staff from the EPA and the OMB met in October 1992. The OMB has not yet completed its review.

The EPA has also been developing guidance to assist regulated facilities in the preparation of risk management plans under section 112(r)(7) of the CAA. The guidance will be sufficiently thorough and technical to serve as the primary source of information on risk management plans for a regulated facility, to help facilities determine whether they are in compliance and what type of technical assistance they may need to fulfill requirements of the plan. The EPA will also be developing model plans to assist certain industries.

The EPA estimates that approximately 140,000 facilities will be affected by this rule including chemical manufacturers, public drinking water and treatment systems, cold storage facilities,

wholesalers, private utilities, and service industries. Many of these same industries are also covered by the OSHA Process Safety Management standard. Consequently, EPA worked closely with OSHA and held focus group meetings with States and industry to ensure that this rule builds on the OSHA standard and provides risk management information needed by states and local planners.

Paragraph Number and Subject:	**Section 112(r)(10) "A Review of Federal Authorities for Hazardous Materials Accident Safety"**
Statutory Requirements:	Requires the President to conduct a review of various Federal agency authorities for release prevention, mitigation and response; clarification and coordination of federal agency responsibilities to ensure effective and efficient implementation; identification of deficiencies in authority of resources; and recommendations for changes.
Due Date:	November 15, 1992
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	Late 1993

Project Status

The Review is completed and was sent to the OMB for approval to transmit the report to Congress. Presidential delegation to EPA to conduct the study is pending.

In response to the Congressional mandate, the report reviews and describes existing federal authorities for accident release prevention, preparedness, and response. It provides findings with respect to key policy questions and issues. The report concludes that while achieving its statutory goals, the safety system is complex and, as a result, costly. A second phase of research is recommended to focus on the technical implications of the issues and to obtain stakeholder input in developing needed options for change, some of which may be statutory. Because of the complexity and inefficiency of the existing system, the issues identified for further investigation impact, and, in some cases, unnecessarily burden both industry and the regulatory agencies. The issues include: multiple statutory definitions for regulated substances and reportable events; multiple facility contingency planning regulations; and multiple accident data bases and reporting requirements.

In addition, the report noted the need for improved coordination among all levels of government in contingency planning and among federal agencies for the development of

prevention programs and regulations. As a result, the Executive Branch, through the National Response Team, has instituted a Prevention Committee and begun improving its coordination efforts with State and local governments for contingency planning.

4.3 SPECIAL STUDIES/PROGRAMS

- Residual Risk Report (112(f)(1))
- Area Source Study (112(k))
- Great Waters Program (112)(n))
- Utilities Study (112(n)(1)(A))
- Mercury Study (112(n)(1)(B))
- Report to Congress on Mercury Health Effects (112(n)(1)(c))
- Coke Oven Production Technology Study (112(m)(2))
- Publicly Owned Treatment Works (112(m)(3),(e)(5))
- Hydrogen Sulfide Study (112)(m)(5))
- Hydrofluoric Acid Study (112(m)(6))
- National Academy of Sciences Study (112(o))
- Mickey Leland Urban Air Toxics Research Center (112(p))

Paragraph Number and Subject:	**Section 112(f)(1) Residual Risk Report**
Statutory Requirements:	Report to Congress on risk associated with stationary sources after the implementation of MACT
Due Date:	November 1996
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 1996

Project Status

To date there has been little direct effort associated with the development of the subject report. Peripheral efforts have been directed toward establishing a baseline of methodologies for calculating risks from stationary toxic sources using currently available techniques ("A Tiered Modeling Approach for Assessing the Risks Due to Sources of Hazardous Air Pollutants," EPA-450/4-92-001, March 1992). Results of these efforts have been communicated to the National Academy of Sciences (NAS) to facilitate their review of the EPA methods for assessing risks. In addition, base program efforts to improve source and ambient measurement methods for air toxics continue as well as the development of capabilities for obtaining a national air toxics emission inventory suitable for the purposes of assessing residual risks.

The recommendations of the NAS report (anticipated to be published in October 1993) will be used to form the basis of the program to develop the 1996 residual risk report to Congress. It is anticipated that a comprehensive plan of action and schedule of activities will be developed for this project within 6 months of the release of that report.

Paragraph Number and Subject: **Section 112(k) Area Source Program**

Statutory Requirements:	The EPA is required to conduct a research program with respect to sources of HAP's in urban areas and, based on the findings, prepare a comprehensive national strategy to control emissions of HAP's from urban area sources.
Due Date:	November 15, 1993 (preliminary research report) November 15, 1995 (national strategy)
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	Same as due dates

Project Status

The purpose of the area source program is to achieve a substantial reduction in emissions of HAP's from area sources and an equivalent reduction in risks from such sources, including a 75 percent reduction in cancer risk. The program must include a research component involving ambient monitoring, source characterization, and consideration of atmospheric transformation. A report summarizing the preliminary research results is due by November 15, 1993.

A national strategy reflecting the research results and input from States and the public is to be developed by November 15, 1995. Goals of the strategy are to reduce cancer incidence associated with area sources by 75 percent and regulate area sources accounting for 90 percent of 30 or more HAP's that pose the greatest threat in the largest number of urban areas. The strategy shall identify actions that will meet these goals, including listing and regulating categories of area sources under section 112, but also including measures taken by the EPA under other statutes or by States. The research program and the national strategy are both underway.

A draft of the required research report has been completed and is undergoing review. Since this research report will only contain preliminary results, additional research has begun within ORD to meet the objectives specified in section 112(k) relating to ambient monitoring, source characterization and atmospheric transformation. This research has been limited by current and

anticipated budget cuts. The EPA plans on publishing a final research report in 1995, complementing the national strategy.

To complement the research report, a number of activities are underway or planned leading to drafting the national strategy. These activities include an analysis of approximately 10 good quality ambient air quality data bases to determine relative exposures and risks associated with measurable urban HAP's. Three major geographical initiatives in Baltimore, Houston and Chicago have been undertaken that will involve development of improved emission inventories of HAP's and the modeling of these emissions data to drive exposure and risk assessment models. These initiatives also include ambient air monitoring and analysis as well as receptor modeling, which is a tool for associating emission sources with ambient samples based on source signatures. An analysis of the EPA's Toxic Release Inventory has also been performed to identify and rank area sources of various HAP's. The EPA's activities toward establishing MACT under section 112 are also valuable sources of information for this purpose that are being utilized. Finally, the EPA has commenced a series of national surveys of sources and emissions of selected HAP's to mutually satisfy the needs of section 112(c)(6) relating to seven specific pollutants or pollutant types and section 112(k) relating to the urban area source program.

Paragraph Number and Subject:	**Section 112(m) Atmospheric Deposition to the Great Lakes and Coastal Waters (Great Waters Program)**
Statutory Requirements:	Section 112(m) requires a program to evaluate the deposition of toxic air pollutants to the Great Lakes, Lake Champlain, Chesapeake Bay, and coastal waters. Research findings and regulatory needs determinations are to be presented in biennial Reports to Congress. Further regulations are to be promulgated as necessary and appropriate.
Due Date:	First Report to Congress: November 15, 1993. Necessary and appropriate emission standards or control measures: November 15, 1995.
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	First Report to Congress: December 31, 1993 Studies and standards: Not Determined

Project Status

As required, master research stations that are capable of monitoring the atmospheric deposition of hazardous air pollutants in both dry and wet conditions were established before December 31, 1991, at each of the five Great Lakes. Data from these stations are being utilized in development of Lakewide Management Plans for the Great Lakes. Quality assurance criteria and data management plans are being developed with Canadian and Great Lakes' States representation. The Chesapeake Bay Atmospheric Deposition Study provides atmospheric monitoring to evaluate wet and dry deposition for the Chesapeake Bay region. A Galveston Bay relative loadings study will be conducted. Several additional initiatives for process research, transport and deposition modeling, emission source data bases development, etc. are underway or in development as well. A comprehensive long-term research plan is being developed to provide the required information for the Report to Congress based on existing data and ongoing work.

In preparation for the development of the Report to Congress, three scientific documents were created by scientists involved in Great Waters-related research. The documents address the three scientific issues in section 112(m)(1): sources of air pollutants, relative loading of air pollutants to the Great Waters, and exposure and effects of airborne pollutants. A workshop was held in November 1992 to peer review the three draft documents and discuss these Great Waters issues and research needs. The final documents are being used to support the writing of the Report to Congress. During Spring and Summer 1993, a draft of the Great Waters Report to Congress was reviewed by the EPA and by scientists involved in Great Waters research. The final EPA review is scheduled for October 1993.

Paragraph Number and Subject:	**Section 112(n)(1)(A) Electric Utility Steam Generating Unit Hazardous Air Pollutant Study**
Statutory Requirements:	The EPA must perform a study, to be presented in a Report to Congress, of the hazards to public health reasonably anticipated to occur as a result of emissions of HAP's by electric utility steam generating units, after imposition of the requirements of the CAA. The EPA is to develop and describe alternative control strategies for HAP's which may warrant regulation under section 112. If the EPA finds that regulation is warranted and necessary considering the results of the study, it shall then proceed with rulemaking activities. Section 112(n)(1)(B) requires the EPA to conduct, and transmit to the Congress, a study of mercury emissions from electric utility units.
Due Date:	November 15, 1993
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 1995

Project Status

For the purposes of section 112, an electric utility steam generating unit is any fossil fuel-fired combustion unit of more than 25 megawatts electrical output capacity that serves a generator producing electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is also considered to be an electric utility steam generating unit. Thus, the industry being investigated includes both the traditional electric utility industry as well as those industrial and third-party units that cogenerate steam and electricity.

To date, the EPA has:

- participated in a series of meetings with industry (e.g., the Electric Power Research Institute [EPRI]) and governmental groups (e.g., the Department of Energy [DOE]) to coordinate HAP emission test programs and to exchange information regarding utility toxics activities;

- performed initial development of the Fourier transform infrared spectroscopy field testing system;

- identified available methodologies for assessing indirect human exposures to air toxics;

- developed a source description data base for the exposure models;

- developed a matrix of unit configurations to define the industry profile for use in the test program and impact analyses phases;

- assessed the availability and usefulness of available HAP data;

- further defined the exposure (both direct and indirect) models that will be used;

- begun emission testing; and

- investigated coal characteristics.

The EPA plans to perform both the electric utility HAP study and the electric utility portion of the mercury study concurrently. The EPA plans to issue a final report to Congress that incorporates the EPRI and DOE emissions testing data by November 1995.

Paragraph Number and Subject: 112(n)(1)(B) Mercury Study

Statutory Requirements:	The EPA is required to conduct and transmit to the Congress a study of mercury emissions from electric utility steam generating units, municipal waste combustors, and other sources, including area sources. The study must include the rate and mass of such emissions, the health and environmental effects of such emissions, technologies which are available to control such emissions, and the costs of such technologies.
Due Date:	November 1994
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 1994

Project Status:

The study is currently on schedule for submittal to Congress in November 1994. The EPA is preparing the study in collaboration with numerous interested parties and experts in the mercury field including representatives from State and local air pollution control agencies, academia, the utility industry, and environmental groups. The mercury study is also being closely coordinated with other CAA studies which involve mercury assessment, such as the Great Waters program and the Electric Utility Study.

The mercury study will include a national emissions inventory of mercury emissions and sources, a long-range transport modeling exercise to illustrate the dispersion of mercury, and an indirect exposure analysis to assess both the exposure potential from pathways other than direct inhalation, and ecological effects. Also included in the study will be a discussion of mercury control technologies and the costs of these technologies. Pollution prevention strategies will also be presented as "control technology" candidates.

As of July 1993, the EPA has nearly completed the national emissions inventory and a health effects summary. A section on trends in mercury use and disposal has also been completed. The long-range transport model has been enhanced to incorporate

atmospheric chemistry algorithms that are critical to understanding the fate and transport of mercury in the atmosphere. The indirect exposure analysis is currently being defined as well as the ecological effects assessment. An evaluation of control technologies and costs is also underway.

Paragraph Number and Subject:	**Section 112(n)(1)(C) Report to Congress on Mercury Health Effects**
Statutory Requirements:	The National Institute of Environmental Health Sciences (NIEHS) shall conduct and transmit to Congress a study on threshold levels for health effects from exposure to mercury.
Due Date:	November 15, 1993
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 15, 1993

Status:

The CAA requires the NIEHS to conduct a study to determine the threshold level of mercury exposure below which adverse human health effects are not expected to occur and transmit a report to Congress by November 15, 1993. The study is to include a threshold for mercury concentrations in the tissue of fish which may be consumed without adverse effects to public health.

The NIEHS convened a multi-disciplinary scientific panel of nongovernmental experts in environmental health sciences, metals toxicology, human biology, and medicine to study the issues. This group reviewed the considerable biomedical literature on the health effects of mercury and data on mercury levels in the environment and contributed data from their own research. These scientists provided advice and recommendations with respect to the questions posed in the CAA. In addition, scientists and scientist-managers of federal environmental and health research and regulatory programs studied the issue and provided additional background information and advice to the NIEHS.

Scientists from the NIEHS issued a final draft report of their findings and recommendations on February 10, 1993. Their report is undergoing review and approval in accordance with procedures established by the Department of Health and Human Services for clearance of Reports to Congress. This review should be completed and the Report should be forwarded to Congress by the deadline set in the CAA.

Paragraph Number and Subject:	**Section 112(n)(2) Coke Oven Production Technology Study**
Statutory Requirements:	The Department of Energy (DOE) and the EPA shall jointly conduct a 6-year study to assess coke oven production emission control technologies and to assist in the development and commercialization of control technologies to reduce emissions of HAP's from coke oven production facilities. Annual reports to Congress are required as well as recommendations of control technologies, upon completion of the study.
Due Date:	November 1997
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	November 1997

Project Status

The DOE is taking the lead on this activity with the EPA acting in an advisory role. Congressional funding of this study is $2 million for fiscal year (FY) '92 and $1.3 million for FY 93. The DOE is preparing a solicitation for publication in the Commerce Business Daily in September 1993. The solicitation package is currently under final internal review at the DOE. The solicitation will ask for proposals for research projects that will be funded 50 percent by the DOE and 50 percent by the applicant.

Paragraph Number and Subject:	**Sections 112(n)(3) and (e)(5) Publicly Owned Treatment Works (POTW) Air Toxics Study**
Statutory Requirements:	Under section 112(n)(3), the Administrator may conduct, in cooperation with the owners and operators of POTW's, a study to characterize emissions of HAP's from such facilities. Section 112(e)(5) requires promulgation of an emission standard by November 15, 1995.
Due Date:	November 15, 1995
Proposal Date:	Not yet proposed
Promulgation Date:	Not yet promulgated
Projected Completion Date:	November 15, 1995

Project Status

The objective of this study is to determine and characterize emissions of HAP's from POTW's (including related wastewater collection systems), and, if necessary, develop MACT standards for POTW's. The study may include a review of current literature and research, sampling of emissions, modeling and risk assessment, consultation with POTW management authorities, and evaluation of control technologies.

A literature review of existing reports and papers on toxic emissions from POTW's has been completed. Existing data bases such as EPA's National Emissions Data System (NEDS) Survey, the EPA Permit Compliance System, and the Toxics Release Inventory (TRI) have been screened as well to obtain data that will be useful in this study. Characterization of HAP's discharged to POTW's from industry is ongoing; additional work is needed to characterize commercial and residential contributions of HAP's to POTW's. Interested POTW management authorities, professional groups, and experts in the field of POTW air emissions are being apprised of the progress of the study; they will be encouraged to provide their input and insight as the study develops.

Upon collection of data, model POTW's and model influent waste streams will be developed to determine whether POTW's are major sources of HAP's. If it is likely that significant numbers of POTW's are major sources, selection of control methods is a

key consideration. Add-on controls and modifications to treatment processes would be costly, and control of emissions from the municipal collection system would be problematic. Another consideration is whether or not existing pretreatment standards, or the industrial wastewater treatment requirements of upcoming MACT standards are sufficient to reduce emissions from POTW's.

A draft document describing the model plants development and summarizing the emissions estimates and control techniques will be available for public review and comment in October 1993. A public meeting is also planned for late 1993 - early 1994 to further facilitate public input. After consideration of public comments, a decision to continue or discontinue standards development will be made.

Paragraph Number and Subject:	**Section 112(n)(5) Hydrogen Sulfide Study**
Statutory Requirements:	The EPA is required to assess the hazards to public health and the environment resulting from the emission of hydrogen sulfide associated with the extraction of oil and natural gas. This study shall include a review of existing State and industry control standards, techniques, and enforcement. The EPA shall, as appropriate, develop and implement a control strategy for emissions of hydrogen sulfide to protect human health and the environment.
Due Date:	November 15, 1992
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	October 30, 1993 (by Court Order)

Project Status

The EPA's Office of Air Quality Planning and Standards (OAQPS) and the Chemical Emergency Preparedness and Prevention Office (CEPPO) have been working together to jointly produce the Report to Congress. The study focuses on accidental and routine releases. Topics include an overview on hydrogen sulfide in the oil and natural gas production industry, a hazard assessment dealing primarily with accidental releases, and findings/ recommendations. The study reflects input from affected industry groups, environmental organizations, State and local agencies, and other EPA and Federal government organizations. The study is on schedule to meet the court-ordered deadline.

Paragraph Number and Subject:	**Section 112(n)(6) Hydrofluoric Acid Study**
Statutory Requirements:	The EPA is required to submit a report to Congress on the commercial and industrial uses of hydrofluoric acid and potential hazards to public health and the environment.
Due Date:	November 15, 1992
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	September 30, 1993 (by Court order)

Project Status

The hydrofluoric acid study is currently in the final draft stage with latest efforts directed at finalizing findings and recommendations. Work has progressed beyond the due date because issues raised during a review by the EPA's Science Advisory Board (SAB) are being addressed. These include modeling of hydrofluoric acid releases and selection of worst-case release scenarios.

The study reflects input from stakeholders in industry, labor organizations, academia, environmental organizations, government, and trade organizations. Affected industries include chemicals and petroleum refining. Major issues addressed in the report are the uses of hydrofluoric acid, chemical and physical hazards of hydrofluoric acid, accident histories, choice of accidental release scenarios, and atmospheric dispersion modeling of dense vapor clouds.

Paragraph Number and Subject:	**Section 112(o) National Academy of Sciences Study**
Statutory Requirements:	The National Academy of Sciences (NAS) is directed to review the risk assessment methodology used to determine the carcinogenic risk and improvements in such methodology. The NAS will also, "to the extent practicable," evaluate the methodology for assessing the risks of adverse human health effects other than cancer
Due Date:	May 1993
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	October 1993

Project Status

The NAS held bimonthly meetings beginning in October 1991, and the EPA provided information for each meeting. For example, the EPA provided information of how the air toxics problem was defined, how regulatory case studies were conducted, and how the EPA did quantitative risk assessments. For later meetings, the EPA was asked about the requirements of the CAA, the state of existing data on the HAP's, and the communication of risk information to managers. The EPA also provided information on emissions, dispersion, and exposure models and the techniques used to validate them.

Project Highlights:

- The EPA provided two documents with answers to nine specific questions asked by the NAS. These documents were provided for the NAS' March 1992 meeting.

- The EPA presented the details of its modeling approach for assessing health risk at the NAS' meeting on September 30, 1992.

Paragraph Number and Subject:	**Section 112(p) Mickey Leland Urban Air Toxics Center**
Statutory Requirements:	The EPA must oversee the establishment of the Mickey Leland National Urban Air Toxics Research Center. The center must have a Board of Directors and a Science Advisory Panel and should be established and funded with Federal and private source funds.
Due Date:	Not applicable
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Completion Date:	Not applicable

Project Status

The Mickey Leland National Urban Air Toxics Research Center has been established and received $300,000 in funding. A scientific advisory panel has also been established for the Center. This panel is composed of experts from the scientific and medical fields and represents universities, medical centers, government agencies, and private industry. The panel's first meeting was held on November 23, 1992 to discuss potential areas of focus within the scope of air toxics. The center has solicited requests for grant proposals for research projects focused on the effects of toxics on human populations. Grant proposals will be accepted for 3-5 years.

4.5 TECHNICAL ASSISTANCE

National Air Toxics Information Clearinghouse

Control Technology Center

Air Risk Information Support Center

Paragraph Number and Subject:	**Section 112(l)(3) Technical Assistance**
Statutory Requirements:	The EPA must maintain an air toxics clearinghouse and centers to provide technical information and assistance to State and local agencies and, on a cost recovery basis, to others on control technology, health and ecological risk assessment, risk analysis, ambient monitoring and modeling, and emissions measurement and monitoring.
Due Date:	Not applicable
Proposal Date:	Not applicable
Promulgation Date:	Not applicable
Projected Promulgation Date:	Not applicable

Project Status:

The EPA currently operates five clearinghouses and information centers covering section 112(l)(3) technical assistance. The five are: the Emissions Measurement Technical Information Center (EMTIC), the Ambient Monitoring Technical Information Center (AMTIC), the National Air Toxics Information Clearinghouse (NATICH), the Air Risk Information Support Center (Air RISC), and the Control Technology Center (CTC). The latter three are specific to air toxics and are described here.

NATICH

The NATICH was established in 1984 as a cooperative effort by the EPA, the State and Territorial Air Pollution Program Administrators, and the Association of Local Air Pollution Control Officials. Information on data and activities related to air toxics is collected from State and local agencies and the EPA and is made available to the public on the NATICH data base. Components of the NATICH include a computerized data base that resides on the OAQPS Technology Transfer Network (TTN), a bimonthly newsletter, a telephone helpline, and various publications, such as a bibliography and special reports on risk assessment issues. The NATICH data base contains information on air toxics regulatory programs from 79 State and local agencies.

Since passage of the CAA, the NATICH has expanded its Bulletin Board System (NATICH BBS), the data base component of

the clearinghouse. It now includes the NATICH Newsletter, a list of annual publications from the EPA's Health Effects Research Laboratory, and files from the TRI data base. In the future, the NATICH BBS will also include information pertinent to Title III of the CAA, such as the Source Category List, the list of 189 HAP's, and the lists of chemicals to be regulated for accidental release under section 112(r). Since enactment of the CAA, the NATICH hotline has received over 1,200 calls and the database of State and local air toxics information was accessed more than 5,400 times.

Air RISC

The Air Risk Information Support Center (Air RISC) was established in 1988 to assist State and local agencies, the EPA Regional offices and the public with questions concerning risk, exposure and health assessment of air toxics. The Air RISC's primary aim is to serve as a focal point for providing health effects information and, where needed, offer assistance in the review and interpretation of that information. Primarily through the operation of an EPA-staffed hotline, the Air RISC has responded to over 3,500 requests for assistance since 1988. The demand for the Air RISC's services has grown dramatically in recent years; the average number of requests received prior to enactment in 1990 was approximately 600 per year, whereas it presently averages over 900. Since passage of the CAA, the Air RISC has extended its services to include all air pollutants rather than just air toxics.

CTC

In 1986, the CTC began providing emission and control technology assistance in response to the EPA's strategy to reduce public exposure to toxic pollutants in the ambient air. The CTC provides ready access to EPA information and expertise by drawing on professional staff from the ORD and the OAQPS. Over the last 6 years, the CTC has expanded its scope to address changing emission source and control technology needs associated with both toxic and criteria pollutants. The CTC services and products are available at no cost to State and local agency and the EPA regional office staff. Others may use the CTC services, but some services may be available only on a cost reimbursable basis.

The CTC services were accessed over 15,000 times in fiscal year 92. These services include: The CTC Hotline for rapid response; Engineering Assistance and Technical Guidance Projects to provide in-depth analysis of specific problems or general technical guidance on questions of national or regional interest; copies of CTC reports, products, and software; access to the Federal Small Business Assistance Program; Technology Transfer

Center; information on and access to the RACT/BACT/LAER Clearinghouse Information System (BLIS); and electronic bulletin board system (BBS) access to all services via the CTC BBS. Both BLIS and the CTC BBS are maintained and operated by the CTC and are located on the OAQPS TTN.

In early 1992, the CTC became the focal point for coordination of efforts among the four EPA information centers participating in the Federal Small Business Assistance Program. This program provides support primarily to the State small business assistance programs required under Section 507 of the CAA. Assistance provided by this program includes information on Federal air pollution standards, air pollution control technologies, air emission testing and monitoring methods, accidental chemical release prevention, hazardous chemical emergency planning, and pollution prevention methods.

5.0 EPA Regional Office Activities

Since passage of the CAA in November 1990, the EPA Regional Offices have placed high priority on working with the EPA program offices and State and local agencies to implement the new provisions. They have been participating on many of the EPA work groups to aid in the development of emission standards as well as infrastructure and implementation programs that are required under section 112. They are also working with the States to help them prepare to implement and enforce these new provisions. While the Regions have been involved in numerous section 112 activities, they have been most active in the Early Reductions Program, State Program Development, the Accidental Release Program, the Area Source Program, and MACT Standards Development.

Early Reductions Program

In fiscal year 1991/1992, the Regions undertook an aggressive outreach program to encourage industries to participate in the Early Reductions Program. These efforts included presentations made at industry trade group meetings and seminars (e.g., chemical/SOCMI, pharmaceutical, and electroplating facilities), meetings convened with specific industries, and meetings held with State counterparts to garner support for this program. The Regions have also been contacting potential applicants by mailing informative materials, such as summaries of the rule and guidance documents, to industries who operate major toxic sources, and inviting them to participate in this program. They have also worked with States to encourage them to contact potential applicants. These efforts have helped to make the Early Reductions Program very successful. Although most of the outreach was aimed at industries who would be affected by the early MACT standards (e.g., SOCMI) other industries have applied to the program as well, such as petroleum refiners, polymers and resin facilities, ethylene oxide sterilizer facilities, and a paper producing facility.

State Program Development

Over the past 2 years, the Regions have been reinforcing their State partnerships by providing regular guidance through meetings and frequent written updates on the CAA activities. They have also been coordinating implementation activities with the State counterparts. Through the section 105 Air Grant Program, the Regions have provided funds for States to begin developing their delegation plans for section 112 provisions. They have also analyzed the States' air toxics programs and their legislative authorities to determine if they have proper legislative authority to implement the provisions of the CAA. The legal and permitting staffs of the Regional Offices have been

coordinating with individual States as they prepare their operating permits submittals to ensure that all of the section 112 requirements are included. Some Regions have developed guidance documents for the States as well. These documents explain what steps States must take to implement the Title III requirements, what requirements must be met, and how the States can proceed towards meeting them.

The Regions have also been very active in development of the section 112(l) State Programs regulation. In 1992, Region V hosted an EPA workshop in Chicago, during which experienced Federal, State, and local agency staff met to discuss and resolve issues. These efforts were helpful in the development of the framework for this rule.

Section 112(r) Accidental Release Program

Several Regions have instituted section 112(r) implementation work groups to develop a best approach for implementing the "prevention of accidental releases" provisions in their respective region. Participation in these work groups has enabled these offices to open multiple lines of communication with government agencies, such as the OSHA, State air programs, and State Emergency Response Commissions, as well as Local Emergency Planning Committees. This has also enhanced communication between the regions and other EPA offices.

Once the accidental release provisions are promulgated, State and local groups that deal with accidental releases, but are not a part of traditional air pollution control programs (i.e., State emergency response commissions, local emergency planning committees, and State police) will have to coordinate with State agencies to implement the new provisions. Many of these groups will not be familiar with air programs; therefore, the Regional Offices and State agencies have been holding meetings to begin identifying problems that may arise in implementation of the Accidental Release program.

Section 112(k) Area Source Program

Three Regions have worked closely with State and local agencies to initiate projects to study urban air toxics problems to support development of a national strategy and mitigation of urban air toxics emissions as required under section 112(k). The purposes of these projects will be to develop emissions inventories, characterize urban air toxics, study potential adverse health effects of these pollutants, and evaluate mitigation techniques.

Section 112(d) MACT Standards

The Regional Offices are also very active on section 112(d) MACT standards work groups. They participate in the meetings and provide expertise for the subject source categories. Often, they are able to provide insight based on practical experience in dealing with facilities in a particular source category.

6.0 State Activities

Many State and local air pollution control agencies established air toxics control programs during the 1980's. This was due to a number of reasons including public concern about exposure to toxic air pollutants and frustration over a lack of progress by the EPA in promulgating NESHAP's under section 112 of the CAA as amended in 1977. State and local air toxics programs vary in scope, with respect to pollutants regulated, coverage for new versus existing sources, informal guidelines versus regulations, and health-based benchmarks versus technology-based standards. Regardless of the type of program, each State at least covers new sources of air toxics and approximately 20 State agencies control emissions from existing sources.

Since passage of the CAA, the States' major concern is how to best integrate their existing programs with the new Federal program that will include the many regulations required by the amended section 112. State and local air pollution control agencies have demonstrated their interest by agreeing to serve on the EPA work groups as advisory members. This has resulted in representation of the State and local perspective in over 40 rulemaking activities to implement section 112.

In addition to representation on work groups to develop emission standards under section 112(d), State and local agencies have provided extensive input into the development of the following Federal rules: the Early Reduction Program (section 112(i)(5)), the Modifications Program (section 112(g)), the State Program Guidance (section 112(l)), and the Title V Permit Program (40 CFR Part 70) under the new CAA. A few of their activities are highlighted below.

- For the past 2 years, State agencies have been developing regulations that will enable them to implement the provisions of the CAA. The number and complexity of new rules needed by each State depends on the legal authority that exists under State statutes, regulations, and other laws. Examples of State actions under development include regulations that will govern the Title V Permit Program and incorporate Title III provisions into existing State programs.

- The States have been very active in the Early Reductions Program. They are informing industries about the program, identifying qualified candidates, and reviewing submittals for enforceable commitments from interested companies.

- State agencies are also preparing for the permit program by identifying the major sources of HAP

emissions in their States to determine which sources will be covered by the permit program and what their permit fees will be.

ACRONYMS

CAA	Clean Air Act Amendments of 1990
EPA	Environmental Protection Agency
OAQPS	Office of Air Quality Planning and Standards
HAP's	Hazardous Air Pollutants
MACT	Maximum Achievable Control Technology
NESHAP	National Emissions Standard for Hazardous Air Pollutants
HON	Hazardous Organic NESHAP
OMB	Office of Management and Budget
RACT	Reasonably Available Control Technology
BACT	Best Available Control Technology
LAER	Lowest Achievable Emission Rate
GACT	Generally Available Control Technology
OSHA	Occupational Safety and Health Administration
SOCMI	Synthetic Organic Chemical Manufacturing Industry
NAS	National Academy of Sciences
ORD	Office of Research and Development
EPRI	Electric Power Research Institute
DOE	Department of Energy
NIEHS	National Institute of Environmental Health Sciences
CEPPO	Chemical Emergency Preparedness and Prevention Office