

US EPA ARCHIVE DOCUMENT

APPENDIX A STATUS OF ACTIONS RECOMMENDED IN FIRST REPORT TO CONGRESS

This appendix provides information on the status of the actions that were recommended in the First Report to Congress on atmospheric deposition to the Great Waters (see Table A-1) and lists the emissions standards that may control the Great Waters pollutants of concern (see Table A-2).

TABLE A-1
Status of Actions Recommended in First Report to Congress

Recommended Action	Status
<p>1. EPA will continue ongoing efforts to implement section 112 and other sections of the Clean Air Act, as amended in 1990, and will use the results of this report in taking reasonable actions to reduce emissions of Great Waters pollutants of concern.</p>	
<p>a. EPA is developing standards under section 112(d) for approximately 35 source categories of Great Waters hazardous air pollutants (HAPs) of concern, consistent with the schedule published in response to section 112(e)(3). Where possible, given other factors, EPA will publish section 112(d) standards ahead of schedule for specific source categories. Great Waters Program funds will be used to develop and publish ahead of schedule section 112(d) standards for at least one source category.</p>	<p>Fiscal year 1994 Great Waters funds supplemented the development of the primary aluminum maximum achievable control technology (MACT) regulation. As a result, the standard was proposed on September 26, 1996. This regulation has been developed via a successful partnership with industry, states, and environmental and tribal interests. The standard primarily addresses fluoride emissions but will also include limits for polycyclic organic matter (POM), the Great Waters pollutant that made this source category a choice for Great Waters funding. Promulgation of this standard is expected in late 1997.</p>
<p>b. During the process of developing emission standards, EPA will evaluate whether the currently defined MACT floor for existing sources represents a sufficient level of control for sources that emit Great Waters pollutants of concern.</p>	<p>At present, the tools to quantitatively evaluate a "sufficient level of control" for Great Waters pollutants do not exist. Nonetheless, in support of this recommendation, Great Waters pollutants are being considered as various source categories are evaluated for pollution control. Table A-2 lists emission standards currently being developed, or which have been completed, that address emissions of some of the Great Waters pollutants of concern.</p>
<p>c. As soon as practicable, EPA will publish an advance notice of proposed rulemaking (ANPR) to notify the public of EPA's interest in establishing lesser-quantity emission rates or LQERs (i.e., less than 10 tons per year) for selected Great Waters HAPs for the purpose of defining sources emitting these HAPs as "major sources" and to solicit comment. EPA will also evaluate whether any Great Waters HAPs warrant establishment of an LQER, and, if appropriate, based on that evaluation and the comments on the ANPR, EPA will develop a notice that proposes LQERs for those pollutants for which an LQER is warranted.</p>	<p>At this time, EPA has postponed development of LQERs. The primary impact of developing an LQER for a pollutant or source category is the consequent definition of that source as a "major" source and thus subjecting that source to certain requirements under CAA section 112. Most sources of the pollutants for which LQERs were being considered are already defined as major, and thus the establishment of an LQER would have little effect. For those sources that are area sources, performing an "area source finding" is a more efficient way to assess source categories as they come up for regulation rather than an up-front LQER analysis with more generic data. Also, there is sufficient statutory authority to require MACT on sources of any size regardless of their definition as major or area sources. In the future, however, EPA may decide that LQERs are warranted for specific source categories or pollutants at which time this effort could be re-initiated.</p>

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Recommended Action	Status
d. During the process of standards development for major sources, EPA will determine whether area sources of Great Waters HAPs warrant regulation under section 112(d) and, if so, which area sources. Results of the assessment will be integrated into the strategy for area sources under development in accordance with section 112(k).	EPA has evaluated 15 area source categories to determine whether regulation of these sources is warranted under section 112(d). These included four source categories emitting lead or dioxins. To date, none of the source categories emitting these Great Waters pollutants has warranted an "area source finding" based on a risk assessment. Area source analyses will continue to be performed as appropriate.
e. For the urban area source strategy (section 112(k)), EPA will evaluate public health effects on the basis of total exposure, which would include exposure by inhalation as well as exposure through ingestion of food containing bioaccumulated urban toxicants.	To assess total exposure to HAPs and criteria pollutants, EPA is currently developing the Total Risk Integrated Model (TRIM). The TRIM will be a probabilistic model capable of assessing risks to humans and to populations in an ecosystem resulting from multimedia contamination (in air, water, soil, and food) and multipathway exposure (via inhalation, ingestion, and absorption exposure routes). The TRIM is expected to be available for use by December 1999.

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Recommended Action	Status
<p>f. EPA will conduct a pilot project examining the use of Great Waters impacts analyses in the development of section 112(d) standards.</p>	<p>EPA has recently developed a new modeling tool for the assessment of atmospheric deposition of pollutants to the Great Waters. REMSAD, the Regulatory Modeling System for Aerosols and Deposition, is a work station-based Eulerian model intended for use in assessing the impacts of regulatory activities, such as section 112(d) MACT standards, on loadings of pollutants of concern to the Great Waters. REMSAD is currently capable of simulating short-, medium- and long-range transport and deposition of mercury, cadmium, dioxins, and POM; other pollutants, including other toxics as well as nitrogen, may be incorporated in future work. Initial model demonstration and evaluation will be completed during 1997. The model is currently available on the OAQPS Support Center for Regulatory Air Models (SCRAM) bulletin board.</p> <p>As part of the REMSAD development and demonstration activities, EPA will conduct a pilot study that will examine the impacts of the Emissions Guidelines for Municipal Waste Combustors (MWCs) on deposition of pollutants of concern to the Great Waters. Like section 112(d) standards, the MWC standard is based on MACT. The MWC category was chosen because it satisfied several requirements for an effective pilot study: (1) it includes a large number of sources; (2) it emits significant quantities of several pollutants of concern, including dioxins, furans, cadmium, mercury, and POM; (3) and suitable emissions data are available. The pilot study will estimate changes in annual loadings of these pollutants to the Great Waters due to implementation of the MWC standard.</p>
<p>g. For Great Waters HAPs, EPA is proposing a cap (i.e., 0.01 ton per year) to the de minimis levels being developed under section 112(g), so that controls would be required for more sources of Great Waters HAPs as they modify their processes. EPA will determine the appropriate de minimis level on a chemical-by-chemical basis, giving consideration to the chemical's persistence, propensity to bioaccumulate, and such other factors that EPA considers relevant.</p>	<p>In the proposed section 112(g) rulemaking, de minimis emission rates were proposed for HAPs identified as being of concern for Great Waters (based on toxicity, bioaccumulation, and bioconcentration). However, the 112(g) rulemaking that was promulgated did not include the provisions pertaining to modifications and, thus, the de minimis levels were not needed and were not included in the final rule.</p>

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Recommended Action	Status
<p>h. EPA plans to propose a revised MWC rule, with stringent controls on mercury emissions and emissions of other Great Waters HAPs, not later than summer 1994.</p>	<p>On September 20, 1994, EPA proposed New Source Performance Standards (NSPS) and Emission Guidelines (EG) applicable to MWC plants larger than 35 megagram (Mg) per day capacity. These regulations were finalized on October 31, 1995. For mercury, the final standard for new and existing MWCs is 0.08 milligram (mg) per dry standard cubic meter (dscm), or about 90 percent control. The final rules also apply to dioxins. The air pollution control system used to comply with the CAA section 129 guidelines achieves greater than 95 percent dioxin reduction.</p>
<p>i. EPA is conducting studies that will provide information for future Great Waters reports. The mercury study, under section 112(n)(1)(B), will evaluate the rate and mass of mercury emissions from all sources, the health and environmental effects of such emissions, technologies to control such emissions, and the costs of these control technologies. The utility study, under section 112(n)(1)(A), will evaluate the hazards to public health reasonably anticipated to occur as a result of emissions of all HAPs by electric utility steam-generating units. Findings of these studies will be relied upon in future Great Waters reports in the development of strategies for reducing environmental exposures to Great Waters pollutants.</p>	<p>EPA has prepared a draft seven volume Report to Congress on mercury which was submitted to EPA's Science Advisory Board for peer review in June 1996. The report was favorably reviewed in February 1997 and EPA expects to finalize and submit the Report to Congress in fiscal year 1998.</p> <p>In October 1996, EPA submitted to Congress an interim report on utility air toxics (U.S. EPA 1996e). Entitled <i>Study of Hazardous Air Pollutant Emissions for Electric Utility Steam Generating Units -- Interim Final Report</i> (EPA-453/R-96-103abc), this document addresses inhalation and non-inhalation exposures to utility emissions. A final report, including a regulatory determination for utility control under section 112 is due January 15, 1998. The Executive Summary of the interim Utility Study can be accessed through EPA's Technology Transfer Network (TTN) by calling (via modem) 919-541-5742.</p>
<p>j. EPA is developing ecological effects assessment screening methods for reviewing petitions to add and delete pollutants from the HAP list and to delete source categories from the source category list. EPA will consider the Bioaccumulation Factor Methodology (58 <i>Federal Register</i> 20802) in the development of these ecological effects assessment methods. The purpose is to help ensure that ecological effects, in addition to health effects, will be considered in determining whether regulation is warranted.</p>	<p>This activity is ongoing. Under section 112(f), EPA is to consider the risk to public health remaining, or likely to remain, after sources are regulated under the section 112(d) MACT program. These additional standards, so-called "residual risk standards," will consider environmental as well as public health impacts. Under this effort, ecological effects assessment and screening methods are being developed.</p>

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k. EPA will evaluate whether other pollutants, including hexachlorobutadiene and methoxychlor, which are proposed Bioaccumulative Chemicals of Concern under the proposed Water Quality Guidance for the Great Lakes System (58 <i>Federal Register</i> 20802) and which have been identified as having potentially significant air sources, should be added to the list of Great Waters pollutants of concern.	This activity is ongoing. In addition to hexachlorobutadiene and methoxychlor, atrazine is also under consideration for addition to the list of Great Waters pollutants of concern.
l. EPA is continuing to emphasize pollution prevention as the goal in the development of control measures to reduce emissions of Great Waters pollutants of concern and is encouraging any voluntary pollution prevention and other emission reduction efforts.	There are a number of ongoing EPA activities that emphasize pollution prevention as a goal in the development of control measures. These activities are described in detail in Chapter IV of this report and include such projects as the Virtual Elimination Pilot Project, the Great Lakes Binational Toxics Strategy, development of Lakewide Management Plans (LAMPs), and the Great Lakes Water Quality Guidance.

TABLE A-1
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Recommended Action	Status
<p>m. In the development of regulations and pollution prevention or reduction strategies under the 1990 CAA Amendments, EPA will examine the potential for reductions of oxides of nitrogen and will determine how additional nitrogen oxide (NO_x) reductions can be achieved for protection of coastal water quality and related resources.</p>	<p>EPA's Integrated NO_x Strategy is described in the staff working draft document entitled "Nitrogen Oxides Impacts on Public Health and the Environment" (U.S. EPA 1997). This strategy will coordinate control efforts to maximize environmental benefits of reductions in ozone precursors, fine particulates, acidic deposition and eutrophication. The document was distributed to the CAA Advisory Committee at their December 5, 1996 meeting and public comments were requested by January 31, 1997. The document was also described at an Ozone Transport Assessment Group (OTAG) meeting and placed on OTAG's TTN web site.</p> <p>Several National Estuary Program sites are investigating the role of atmospheric deposition of nitrogen compounds in eutrophication.</p> <p>Another EPA activity called the Clean Air Power Initiative (CAPI) produced an October 1996 report that summarizes a strategy to cost-effectively reduce emissions of NO_x, SO_x and mercury from utility boilers. CAPI information is available on the web site: www.epa.gov/capi.</p> <p>EPA has also proposed new ozone and particulate matters standards (December 13, 1996). EPA plans to complete the final rulemaking by July 19, 1997. These rules are expected to significantly reduce NO_x emissions, as will the revised NO_x New Source Performance Standard (NSPS) for utility and non-utility units. EPA is required to propose the NSPS by July 1, 1997.</p>

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<p>n. EPA will develop Alternative Control Technology documents (ACTs) for NO_x. This is expected to result in nationwide NO_x emissions reductions, thus protecting coastal waters, as states develop regulations under the National Ambient Air Quality Standards program (NAAQS).</p>	<p>The ACT documents were required under section 183 of the CAA. These documents describe a wide range of NO_x control technologies for nine specific source categories (cement manufacturing, gas turbines, glass manufacturing, internal combustion engines, iron and steel, nitric/adipic acids, non-utility boilers, process heaters, and utility boilers). Great Waters funds were used to develop two of these documents. The purpose of the ACT documents is to help states adopt rules to meet the NO_x Reasonable Available Control Technology (RACT) requirements by May 31, 1995. In addition, the ACT documents should help states that develop beyond-RACT rules related to ozone attainment plans. Copies of the ACT documents are available from the National Technical Information Service at 1-800-553-NTIS.</p>
<p>2. EPA recognizes the need for an integrated multimedia approach to the problem of atmospheric deposition of pollutants to waterbodies and, therefore, will consider authorities beyond the Clean Air Act to reduce human and environmental exposure to Great Waters pollutants of concern.</p>	
<p>a. EPA will establish a funding and operational mechanism for all appropriate offices to pool their resources (both dollars and personnel) to more effectively and efficiently manage this multimedia problem. The Great Waters Core Project Management Group will serve as the liaison among EPA's Assistant Administrators (AAs) and Regional Administrators (RAs). Through this group, commitments will be obtained from each of the AAs and RAs to earmark funds for implementing the recommendations of the First Report to Congress or to take a lead role in the implementation of specific recommendations.</p>	<p>Evaluation of the opportunities for pooling resources between EPA offices showed that there was no available funding mechanism to do so, and that it would be impractical to develop such a mechanism. The Core Advisory Work Group agreed instead that the participating offices/agencies would integrate Core Group input into the planning for Great Waters-related efforts within their offices/agencies, as well as providing their input in planning Great Waters-funded activities. This integration of activities is ongoing.</p>

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Recommended Action	Status
b. EPA should use the discretionary authority in existing statutes to regulate or prohibit multimedia environmental releases that cause or contribute to a water quality impairment. The Administration wants to work with Congress (e.g., on Clean Water Act reauthorization) to develop approaches that would allow effective pollution control where other federal environmental statutes are not effective and where an integrated multimedia approach is the most efficient means to reduce unacceptable risk. This would not apply to mobile sources or pesticide programs. EPA would use the most appropriate existing environmental statute (e.g., the Clean Air Act for air releases) for controlling the release and would take into account the factors of revised section 307(a)(2) of the Clean Water Act.	In 1997, efforts to reauthorize the Clean Water Act are still ongoing.
c. Congress, with technical support from EPA, should develop legislation to prohibit the exportation of any pesticide product which contains an active ingredient that has been banned for all or virtually all uses in the United States. The recommendation to prohibit the export of banned pesticides was presented in the <i>Report of the National Performance Review: Creating a Government That Works Better and Costs Less</i> .	Such legislation was introduced into a Congressional committee in 1995, and failed to pass.

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<p>d. EPA will work with other countries to explore possible alternatives to reduce or eliminate the production, export, and use of pesticides banned in the United States.</p>	<p>This activity is ongoing. EPA currently participates in the North American Commission for Environmental Cooperation, which was set up as a parallel agreement to the North America Free Trade Agreement. In that group, EPA is a member of the Working Group on the Sound Management of Chemicals, which has established task forces on mercury, PCBs, DDT, and chlordane. EPA also represents the United States in negotiations on the Long-Range Transport of Air Pollution (LRTAP), which includes a number of these substances. In the near future, EPA will be representing the program on the United Nations Environmental Program negotiations on Persistent Organic Pollutants, the list for which is now under consideration, but which will likely include the LRTAP substances, as well as some others.</p> <p>EPA is currently participating in the negotiations for another United Nations treaty on Prior Informed Consent, which will control the international trade of many "delisted" (i.e., banned) substances.</p>
<p>e. EPA will explore the feasibility of creating an inventory of pesticide use within the United States and of establishing a program to identify and quantify stockpiles and emissions of pesticides of known and potential concern, including banned pesticides.</p>	<p>EPA believes that creating such an inventory is possible from annual information submitted under section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, as amended by the Food Quality Protection Act of 1996). This information would cover basic producer and formulator inventory changes. Additional proprietary data sources could cover farm level inventories. While this type of inventory is feasible, EPA currently has no plans to compile this information.</p>
<p>f. EPA will continue to emphasize pollution prevention as a goal and to encourage voluntary pollution prevention efforts that lead to reductions in releases of Great Waters pollutants of concern. Several pollution prevention projects that address Great Waters pollutants of concern are currently underway:</p>	<p>The highlights of many of these efforts and milestones reached, including the PCB phaseout program and clean sweep actions, can be found in the document <i>Toward a Brighter Future, EPA Region 5, the First 25 Years, 1970-1995</i>, EPA-905-F-96-001, 1996.</p>

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<ul style="list-style-type: none"> - A "Virtual Elimination Pilot Project" is underway in the Great Lakes Basin, as part of a comprehensive toxics reduction effort. The Virtual Elimination (VE) Pilot Project proposes selecting a small group of toxics as a pilot and performing an in-depth analysis of opportunities for reduction from all sources. 	<p>The "pilot" portion of the VE project focused on the reduction of mercury and PCBs. A stakeholder meeting was held in the Great Lakes region in 1993. Based on the meeting, a draft report was developed by EPA to identify options to reduce mercury. A similar paper is currently being prepared by EPA to address PCBs. This project will continue with additional analyses of classes of substances rather than the use of a chemical-by-chemical approach.</p>
<ul style="list-style-type: none"> - EPA has initiated a project to reduce risks from PCBs by asking all utilities in the Great Lakes area to voluntarily decommission their PCB electrical equipment. - The Lake Superior Pollution Prevention Strategy was released in October 1993 as part of the Lake Superior Binational Program. 	<p>Twelve major utilities in the Great Lakes basin conducted a study of the utility industry in EPA Region 5 and reported that the utilities have collectively removed almost 90 percent of the PCBs they had in service as of 1978. Individually, most of the 12 utilities indicated that they would continue efforts to remove PCB electrical equipment and several other utilities offered to assist with PCB phaseout outreach.</p> <p>In December 1995, Northern Indiana Public Service Company (NIPSCO) became the first utility to officially and formally commit to phase down its remaining PCB electrical equipment as part of the PCB Phasedown Program. Their commitment will involve the replacement or removal of all of their PCB equipment or PCB-contaminated oil in the equipment over the next 10 years with the vast majority of the PCBs being phased down within the next five years.</p> <p>As discussions on company-specific PCB reductions continue, EPA concurrently drafted a policy that could offer certain enforcement related credits to facilities that meet specific PCB phaseout targets. Once the policy is finalized, EPA expects renewed interest and participation in the PCB Phasedown Program.</p> <p>This effort has been completed.</p>

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Recommended Action	Status
<p>– EPA, together with state Departments of Agriculture and local government agencies, has funded a series of "Clean Sweeps" to collect and properly dispose of existing stocks of canceled pesticides from residents in the Great Lakes area.</p>	<p>In the Lake Michigan basin, agricultural "clean sweeps" to properly collect and dispose of unused pesticides have been conducted in Indiana, Michigan, and Wisconsin. Also, a variety of pollution prevention and technical assistance projects have taken place in Milwaukee, Chicago, and western Michigan. EPA continues to fund agricultural clean sweeps on a modest but consistent level, encouraging states to develop innovative approaches to pesticide collections. Michigan, Minnesota, and Wisconsin are setting up permanent collection sites (similar to household hazardous waste sites) where pesticides will be collected over a number of years.</p>
<p>g. EPA will continue its work with Canada, under the Great Lakes Water Quality Agreement, on airborne toxic substances. These continuing bilateral efforts are assisting and will continue to assist in meeting Great Water program objectives during the 1990s.</p>	<p>EPA is continuing its work with Canada, as parties of the Great Lakes Water Quality Agreement, and with the activities of the International Joint Commission, as well as having Canadian input on major Great Waters planning and reporting activities. In April 1997, the United States and Canada also agreed to a strategic plan for eliminating toxic substances from the Great Lakes by 2006. The Great Lakes Binational Toxics Strategy calls for a number of milestones to be achieved from 1997 to 2006 including reductions in mercury, PCBs, and dioxins. The two countries have also agreed to boost bilateral cooperation to address pollution that crosses boundaries and to cooperate on environmental research and technology. A memorandum of understanding is to be signed in September 1997.</p>
<p>h. EPA will distribute technical information to state and local air and water agencies to facilitate cooperative efforts toward common goals to further reduce human and environmental exposure to Great Waters HAPs.</p>	<p>Outreach to state and local air and water agencies is an ongoing process. These efforts are exemplified by such programs as the Great Lakes Information Network, the Technology Transfer Network (TTN), the Regional Air Pollution Inventory Data System (RAPIDS), and other electronic information sources such as a number of EPA home pages on the World Wide Web. In addition, EPA continues to develop emission factors for state and local use in developing emission inventories. These documents are available electronically on the TTN.</p>

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Recommended Action	Status
i. EPA will initiate discussions about possible mechanisms that regional EPA offices and state agencies could use for sharing information on new or renewal permit applications for sources with the potential to emit Great Waters pollutants of concern.	This activity has yet to be initiated. If, in the course of new permit applications and renewals, there appear to be common issues among the states with respect to Great Waters pollutants, the regional EPA offices may initiate some mechanism to provide information exchange and consistency between the various permitting agencies. To date, with the early implementation of the permitting programs, this has not been an issue.

TABLE A-1
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Recommended Action	Status
3. EPA will continue to support research activities and will develop and implement a strategy describing necessary research and policy assessments to address the mandates of section 112(m).	
<p>a. EPA is developing a strategy to target research necessary to answer the scientific questions outlined in section 112(m). The strategy will be reviewed by EPA's Science Advisory Board and will influence decisionmaking on the priority and funding for future research. This strategy will focus on utilization of the mass balance approach for determining relative loading and will acknowledge the need for a balance between monitoring, modeling, and emission inventory efforts for that work. The strategy will also consider how to better identify those persistent chemicals with the tendency to bioaccumulate that may become problematic if emissions continue. Included in the strategy will be an assessment of the need for development of tools that can be used to: (1) assess and quantify the human health and environmental risk from exposure to air toxics, especially via indirect exposure routes, and (2) quantify the social, environmental, and economic benefits and costs of pollution prevention and regulatory actions.</p>	<p>EPA is working on a research strategy for the Great Waters program that focuses on mass balance work, modeling and monitoring support, control technologies and strategies, and development of assessment methods that can be used to evaluate waterbodies other than the Great Lakes. The purpose of such a strategy is to avoid duplication of effort in funded research and to target specific areas where research is needed to respond to the mandate of the Great Waters program. In addition, EPA's Mercury Task Force is in the process of developing an Agency research strategy specific to mercury. This effort will be fully coordinated with the Great Waters program.</p>
<p>b. EPA will continue to work with NOAA to pursue the development and application of the appropriate technical tools to further define and estimate loadings to the Great Waters and to identify sources of atmospherically deposited pollutants.</p>	<p>The Great Waters program continues to fund NOAA's development of transport and deposition models, as well as work to parameterize important atmospheric processes for those models. These efforts are exemplified by the development and application of ammonia and organic nitrogen measurement methods which will aid in understanding the effects, transport, and sources of various species of nitrogen. NOAA also assisted in the development of EPA's long-range transport analyses for mercury.</p>
<p>c. Through the use of Great Waters program funds and other resources, EPA will continue to support those research activities identified as priorities by the research communities and affirmed by the Great Waters Core Project Management Group.</p>	<p>Funding of appropriate research activities is an ongoing effort. As mentioned above, EPA will continue to identify and evaluate research priorities during development of a Great Waters program research strategy.</p>

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<ul style="list-style-type: none"> – EPA will continue work on the characterization of processes and parameters for mass balance modeling and the verification of the mass balance methodology, especially the development of the prototype mass balance program being conducted in Lake Michigan. – EPA will work with state agencies to complete regional emission inventories for the Great Lakes and will complete a national screening level emission inventory for section 112(c)(6) chemicals (seven of the Great Waters pollutants), and will identify categories of sources of these pollutants. – EPA will continue source characterization and identification activities. 	<p>EPA has developed and funded, in cooperation with a number of other agencies and organizations, the Lake Michigan Mass Balance Study (LMMB). The LMMB is intended to develop the predictive capability to determine the environmental benefits of specific load reduction scenarios and the time needed to realize those benefits. For this study, the atmospheric deposition of toxics is being monitored and the concentrations of toxics in fish, phytoplankton, sediment, tributaries are being measured. Pollutants chosen for the LMMB are total mercury, atrazine, trans-nonachlor, and PCBs.</p> <p>Continuation of the Great Lakes regional emission inventory work is made possible by EPA CAA section 105 grants to the Great Lakes states, and for the section 112(c)(6) project by Great Waters contract funding. Four states completed a pilot study of major urban areas along the shore of Lake Michigan in December 1995 using RAPIDS. Work is continuing by all of the Great Lakes states to now build a comprehensive regional air toxics inventory for 49 air pollutants. Mobile source emissions will be added to the emissions inventory in the future.—EPA's inventory for section 112(c)(6) of the CAA was made publicly available for comment in October 1996. The final 112(c)(6) inventory and listing decisions will be completed by December 1997. The draft inventories can be obtained from EPA's Internet website at: www.epa.gov/oar/oaqps/airtox/112c6fac.html.</p> <p>Source characterization work is ongoing in several areas, ranging from regulatory work by EPA under CAA section 112 to inventory development by state agencies. Other specific projects to characterize and identify emission sources include the Mercury Stack Testing Project in the Lake Superior Basin which will provide speciated mercury data for a number of different source types. Also, the Lake Michigan Urban Air Toxics Study (LMUATS) and the Atmospheric Exchange Over Lakes and Oceans Study (AEOLOS) focused on the southern Lake Michigan area to quantify and characterize wet and dry depositional fluxes of trace metals, PCBs, and PAHs resulting from emission sources in this urban area.</p>

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<ul style="list-style-type: none"> – EPA will complete and evaluate mercury screening level deposition models using screening emission inventories and will determine whether to transfer the method to other chemicals and to provide support for other more intensive regional air emission inventory efforts. – EPA will continue to support ongoing monitoring efforts. 	<p>EPA has performed and documented extensive mercury deposition modeling in the draft Mercury Study Report to Congress. Work is ongoing, as mentioned above, in transferring this methodology to other chemicals, notably POM, dioxin, and cadmium, on a regional scale using the REMSAD model. During 1997, these efforts will focus on multi-pollutant modeling on a regional scale.</p> <p>EPA continues to support the Integrated Atmospheric Deposition Network (IADN). The network began collecting data in 1990. Currently, there are three master monitoring stations in the United States and two master monitoring stations in Canada. Other satellite sites have also been added in both countries. Data collection has proceeded at all sites, and research and development of sampling and analytical methodologies is ongoing. A workshop to discuss the results of the IADN work to date will be held in June 1997.</p>
<p>d. EPA will initiate discussions among the appropriate groups to identify ongoing benefits analysis efforts and human health (cancer and noncancer) and environmental risk assessment efforts within the Agency, in other federal programs, in other countries, in academia, and elsewhere. The goal is to define more clearly the research/data needs and to develop a long-term plan for developing tools and methods for benefits analyses and risk assessments.</p>	<p>This activity will be initiated in 1997.</p>

TABLE A-2
Emission Standards Addressing Great Waters Pollutants of Concern

Standard	Pollutants Controlled
Asphalt Hot-Mix Production	Polycyclic organic matter (POM)
Asphalt Roofing Production	POM
Battery Production	Mercury
Carbamate Insecticides Production	POM
Carbon Reactivation Furnaces	Dioxin
Carbon Black Production	Mercury, POM
Chlorine Production	Mercury
Chlorinated Solvents Production	Hexachlorobenzene
Coke Ovens: Charging, Topside & Door Leaks	POM
Coke Ovens: Pushing, Quenching & Battery Stacks	POM
Commercial Coal Combustion	Mercury, POM
Commercial Natural Gas Combustion	POM
Commercial Oil Combustion	Mercury, POM
Commercial Wood/Wood Residue Combustion	POM
Crematories	Mercury, POM
Dental Preparation and Use	Mercury
Drum and Barrel Reclamation	Dioxins, POM
Electrical Apparatus Manufacturing	Mercury
Ferroalloy Manufacture	POM
Fluorescent Lamp Recycling	Mercury
Gasoline Distribution (Aviation)	Lead
Gasoline Distribution (Stage I)	Lead, POM
Gasoline Distribution (Stage II)	Lead, POM
General Laboratory Activities	Mercury
Geothermal Power	Mercury
Hazardous Waste Incineration	Dioxins, mercury, PCBs, POM
Industrial Coal Combustion	Mercury, POM
Industrial Natural Gas Combustion	POM
Industrial Oil Combustion	Mercury, PCBs, POM
Industrial Stationary IC Engines - Diesel	POM

TABLE A-2
Emission Standards Addressing Great Waters Pollutants of Concern

Standard	Pollutants Controlled
Industrial Stationary IC Engines - Natural Gas	POM
Industrial Waste Oil Combustion	POM
Industrial Wood/Wood Residue Combustion	Dioxins, POM
Instrument Manufacturing	Mercury
Iron and Steel Foundries	Dioxins, POM
Lamp Breakage	Mercury
Landfill (Gas) Flares	Dioxins, mercury
Lightweight Aggregate Kilns	Dioxins, mercury
Lime Manufacturing	Mercury
Medical Waste Incineration	Cadmium, dioxins, mercury, PCBs, POM
Municipal Waste Combustion	Cadmium, dioxins, mercury, PCBs, POM
Naphthalene - Miscellaneous Uses	POM
Naphthalene Production	POM
Naphthalene Sulfonates Production	POM
Non-Residential Wood Combustion	Mercury
Non-Road Vehicles and Equipment (NRVE) - Aircraft	POM
NRVE - Other	Lead, POM
On-Road Vehicles	Dioxins, POM
Open Burning of Scrap Tires	POM
Other Biological Incineration	Dioxin, PCBs, POM
Pesticides Application	Hexachlorobenzene
Pesticides Manufacture	Hexachlorobenzene
Petroleum Refining-Catalytic Cracking Units	POM
Phthalic Anhydride Production	POM
Portland Cement Manufacture: Hazardous Waste Kilns	Dioxins, mercury, POM
Portland Cement Manufacture: Non-Hazardous Waste Kilns	Dioxins, mercury, POM
Primary Aluminum Production	POM
Primary Copper Production	Cadmium, mercury
Primary Lead Smelting	Mercury
Pulp and Paper - Kraft Recovery Furnaces	Dioxins, POM

TABLE A-2
Emission Standards Addressing Great Waters Pollutants of Concern

Standard	Pollutants Controlled
Pulp and Paper - Lime Kilns	POM
Pulp and Paper - Sulfite Recovery Furnaces	POM
Residential Coal Combustion	Dioxins, mercury, POM
Residential Natural Gas Combustion	POM
Residential Oil Combustion	Dioxins, mercury, POM
Residential Wood Combustion	Dioxins, POM
Scrap or Waste Tire Incineration	Dioxins, PCBs, POM
Secondary Aluminum Smelting	Dioxins
Secondary Copper Smelting	Dioxins
Secondary Lead Smelting	Dioxins, POM
Secondary Mercury Production	Mercury
Sewage Sludge Incineration	Dioxins, mercury, PCBs, POM
Stationary Gas Turbines - Diesel	POM
Stationary Turbines - Natural Gas	POM
Utility Coal Combustion	Dioxins, mercury, POM
Utility Natural Gas Combustion	POM
Utility Oil Combustion	Dioxins, mercury, PCBs, POM
Wildfires and Prescribed Burning	Dioxins, POM
Wood Treatment/Wood Preserving	Cadmium, dioxins, POM