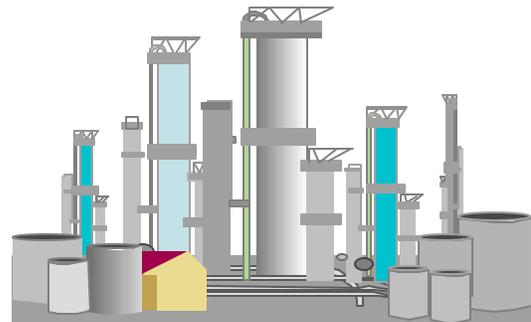


# **Recommended Framework for State/Local/Tribal Air Toxics Risk Reduction Program**

Final Workgroup Report  
September 2000



## **Workgroup on Integrated Air Toxics: State/Local/Tribal Program Structure Formed Under the Clean Air Act Advisory Committee Subcommittee for Permits/New Source Review/Toxics**

*Submitted to:*

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Disclaimer: This report reflects the comments and discussions of the workgroup on integrated air toxics State/local/Tribal program structure and does not constitute EPA's position on these topics.



# EXECUTIVE SUMMARY

## **What is the background of this report?**

In February 2000, the U.S. Environmental Protection Agency (EPA) created a workgroup under the Clean Air Act Advisory Committee's (CAAAC) Subcommittee for Permits/New Source Review/Toxics. The EPA created the workgroup to obtain stakeholder input on how to structure State/local/Tribal (S/L/T) programs under the risk-based phase of the national air toxics program. The workgroup consists of 21 members representing State and local agencies, cities and elected officials, an academic association, tribal authorities, environmental groups, environmental justice groups, industry, and EPA. This report is the product of the workgroup.

## **What is the charge to the workgroup that resulted in this report?**

The Clean Air Act (CAA) directs EPA to reduce risk from air toxics in two phases at the Federal level: first, through development and implementation of technology-based standards (including the Maximum Achievable Control Technology, or "MACT," standards) and, second, through a risk-based program to meet goals for protection of human health and the environment specified in the CAA. This program includes the Integrated Urban Air Toxics Strategy, developed under section 112(k) of the CAA to address risks in urban areas, and the Residual Risk Program, being developed under section 112(f) of the CAA to address risks remaining on an industry-specific basis, after the MACT standards for each industry are implemented.

After implementation of the technology-based standards, some air toxics risks may remain. While EPA has the authority to issue standards to address the remaining air toxics risks in the second phase, in some cases these risks may be more appropriately addressed at the S/L/T level, rather than at the Federal level. Therefore, EPA asked the workgroup to recommend how to structure a program encompassing Federal, State, local, and Tribal authorities to coherently address air toxics risks and, in particular, to define the interface between Federal, State, local, and Tribal programs so that:

- Unacceptable public health risks are addressed across the country, including low income people and people-of-color communities
- An appropriate balance is struck between the need for local flexibility and the need for national support for areas that require Federally mandated programs
- Full advantage is taken of the programs already in place
- CAA mandates are achieved
- All geographic areas are addressed, regardless of race or income

The EPA will consider the recommendations from this report, along with public comments that were received in 1999 on the proposed Integrated Urban Air Toxics Strategy, in developing a plan for

an overall program to address air toxics risk. The EPA will issue the plan for how to structure the risk-based program by February 2001.

### **What approach does the workgroup recommend for addressing its charge?**

The air toxics risks remaining after EPA implements the technology-based elements of the national air toxics program are likely to be variable and require flexibility to address. Therefore, the workgroup recommends a flexible framework that seeks to accommodate existing, mature State and local air toxics programs, as well as S/L/T agencies that will need to develop entire programs. In this framework, the workgroup envisions a very strong role for S/L/T agencies in the development and implementation of risk-based air toxics programs. The workgroup also believes that for the S/L/T programs to achieve air toxics risk reduction, it is essential for S/L/T agencies to form partnerships with EPA and for EPA to fulfill its obligations in several important areas outlined in this report. This program must also be designed to ensure strong stakeholder involvement throughout the process.

### **What goals does the workgroup recommend the program adopt to address air toxics risk?**

The workgroup identified four types of goals to be met by an overall program to reduce air toxics risk. These are national, area-wide, near-source, and community/neighborhood risk reduction goals. The EPA has defined the national goals of the program according to CAA mandates. However, in order to achieve these broad national goals, there must be goals for smaller geographic units. One set of goals is for air toxics emission reductions that must be met on a statewide or area-wide basis. These goals address the high priority air toxics in the ambient air of a State or Tribal area. The workgroup also identified near-source goals, which address public health risks associated with the area immediately surrounding stationary sources. The community/neighborhood goals address public health risks to air toxics present in the ambient air of communities.

### **What is the workgroup's recommended framework of a program to address air toxics risk at the S/L/T level?**

To meet each of the four types of goals, the workgroup recommends a four-step process:

- Assessment of the problem
- Program development
- Program implementation
- Audit/backstop process

The lead agency or agencies for each step are identified in this report. Further, the workgroup's recommended program includes certain specified activities for each step that must be included as minimum elements to ensure reduction goals are met. Options available to S/L/T agencies to carry out the minimum elements criteria are also described in this report. Recommended action items for key activities leading to completion of an overall program to reduce air toxics risk and schedule

milestones are presented. Finally, by February 2001, EPA will issue its plan for how to structure S/L/T programs for the risk-based phase of the national air toxics program. Substantial, initial goals would be met by 2010, with the remainder of the program implemented in the 2010 to 2020 timeframe.

### **How do the Tribes fit into the framework recommended by the workgroup?**

Tribes are sovereign and independent nations. Therefore, the Federal government has a much different relationship with Tribes than with State agencies. The EPA has only recently been given authority to work with Tribes in the same manner as States, with respect to implementation of CAA programs. Tribes, in general, do not possess the infrastructure to address risks from hazardous air pollutants (HAPs). Across the nation, only a few Tribes have developed air quality programs and the focus of those programs is on criteria pollutants. Currently, no Tribe has a Federally approved permitting program. In addition, Tribes that do have air toxic sources do not have adequate monitoring resources and capacity for assessing air toxic levels and their cumulative risks to the community. In some cases, the air toxic sources have not yet been included as a “source category” by EPA - a prerequisite for developing a MACT standard.

For Tribes to develop programs to address risks from air toxics will take considerable time. Indian Tribes want to fully develop their air toxic programs. However, realistically, Tribes need additional assistance from EPA or State and local agencies in order to improve their program capability and control air toxic sources in Indian country. The framework recommended by the workgroup provides sufficient options and approaches to allow for the support and assistance the Tribes will need to develop air toxics programs.

### **What critical issues did the workgroup identify?**

The workgroup identified several issues that are critical to the success of the overall program and its implementation. These are:

**The EPA must carry out its obligations under the program to develop standards for issues of national concern.** While EPA currently has plans to address mobile source HAP emissions and other issues of national concern, the workgroup feels these actions alone will not fully address national air toxics risk. Therefore, the workgroup believes that it is critical to the success of the program recommended in this report that EPA initiate national standards and programs in several key areas:

- Accelerate upgrade of diesel engines (require retrofits of older engines, accelerate removal of older vehicles from fleet)
- On-road and off-road motor vehicles (gasoline and diesel) standards
- Gasoline, diesel, and aviation fuel specification
- Standards for commercial marine vessels
- Aircraft, airport emissions, and locomotive standards

- Standards for utilities
- Standards in areas which are preempted from S/L regulation (e.g., portable equipment and equipment used for farm and construction activities that is rated 175 horsepower or lower)
- Development of Federal Action Plans for chemicals that are persistent bioaccumulative toxics (PBTs)
- Standards for other areas of national significance
- Guidance for S/L/T agencies to carry out this program

**The flexible program must allow S/L/T agencies that have well-developed air toxics programs to continue without interference or interruption through a functional equivalency process.** This process would be an up-front approval through a simple verification process that an existing S/L/T program may continue with current activities to reduce public health risks as a result of exposure to air toxics.

**Emissions from diesel-fueled engines and vehicles must be addressed under this program.** Because of significant health issues associated with diesel emissions, most workgroup members believe that, in order to reduce toxics in urban areas, this program needs to address diesel emissions. While EPA has already planned some activities to reduce diesel emissions, the significant health issues associated with diesel emissions demand that additional measures be taken to fully address this issue.

**Adequate funding must be provided to ensure implementation of this program.** While many tools are already available for S/L/T agencies to develop this program, additional support is essential. Key areas include the following:

- Funding is needed for the S/L/T governments to develop and implement an air toxics risk reduction program.
- The EPA must have adequate resources to ensure it can carry out its obligations under the program to support the S/L/T agencies, including completing national rulemakings and developing tools critical to support S/L/T efforts.
- Resources are also needed to encourage and support local community involvement, education, and training.
- Resources are essential to providing meaningful incentives for S/L/T agencies, industry, and other stakeholders to participate in the process and to leverage additional resources.

**An important issue concerns EPA's authority to require S/L/T agencies to develop plans to reduce air toxics risk with certain minimum elements and to conduct oversight.** Before the recommended framework can be implemented nationally, particularly in S/L/T areas that lack authority, EPA must establish or identify appropriate authorities. Some workgroup members believe that EPA must determine what CAA authorities exist beyond sections 112(k) and 112(f) to require S/L/T agencies to use this framework to address local risk. Other members suggest, instead, that this framework could be adopted by S/L/T agencies as a comprehensive program (under the

authority in CAA section 112(l)) that meets the mandates of section 112(k) and 112(f) while allowing them to customize goals and strategies to meet local air toxics concerns. In addition, many workgroup members believe incentives should be devised to encourage S/L/T agencies to implement a program regardless of the existence of CAA authority to require the program.

**Incentives are an important program element regardless of the authority issue.**

Incentives are needed for S/L/T participation, but also for industry, who would play a large role in the success of an incentive-based program.

**Stakeholder involvement is critical to the success of the program the workgroup has developed.** The EPA and S/L/T agencies should create a viable process for stakeholder involvement to ensure stakeholders are engaged early in the program as active partners, so that different technical perspectives, public values, perceptions, and ethics are considered. Creating incentives for stakeholders to become involved at the beginning of the program and through its conclusion may be needed to ensure sufficient participation in the process.

**Environmental justice (EJ) issues are central to operation of this program.** The workgroup agrees that EJ concerns need to be integrated within the framework recommended in this document. Furthermore, the workgroup understands that policy decisions of where sources are sited, based solely on science and economics may inadvertently result in a discriminatory effect. Therefore, in developing their urban air toxic programs, S/L/T agencies need to include consideration of historical patterns of racial and economic segregation in their decision-making. The workgroup suggests that EPA and S/L/T agencies develop a process to identify these communities at disproportionate risk early in the program. In addition, community-based research is an important tool that can be used by S/L/T agencies to help improve their understanding of the risks impacting the health and welfare of the EJ communities. Community outreach, including the establishment of advisory committees, is also important to implementation of a framework that addresses EJ concerns.

**There are special concerns specific to Tribes that need to be considered for the implementation of this program in Tribal areas.** Currently, none of the Tribes have a developed air toxics program and virtually all lack the infrastructure to build one and to perform this program. In addition, the structure of a Tribal program will differ from those of most State or local agencies. For this program to be successful in Tribal areas, they will need extensive infrastructure support from EPA. Also, in contrast to many States and local agencies, the Tribal air toxics concerns are generally rural in nature, and would be based on hot-spots or near-source concerns rather than concerns of urban areas.

**A concept important to this program is that EPA should be able to intervene in situations where an immediate threat to public health is apparent.** These “crisis” situations would include instances where there is evidence that public health is severely compromised due to exposure to air toxics. In the event of these occurrences, EPA or S/L/T agencies could take action to immediately reduce or eliminate the threat.

**The definition of “local” agency and ensuring effective intergovernmental relationships are important to the overall program.** For the purposes of this report and the framework it presents, “local” agency refers to the agency responsible for administering industrial operating permits, rather than the local government. However, for this program to be successful at the local level, different agency types will need to work together because each only has partial control of any air toxics risk situation created by industrial air toxics emissions.

**Proper and inclusive land use and urban planning can serve as primary prevention tools for many environmental concerns and EJ issues.** The issues of urban sprawl, greenfield development, brownfield redevelopment, and the development of clean alternatives for mass transportation involve other private and public organizations which are not part of the current stakeholder discussions. These organizations must be included in any future planning process for the development of a viable urban air toxics strategy as envisioned by the workgroup.

In addition to the above issues, the workgroup identified several other issues that they did not address, but which are important and will need to be addressed in the future. These issues are listed in Appendix G.

## Glossary of Terms Used in Report

*CAA* means Clean Air Act, as amended in 1990.

*CAA Section 112(k)* means the section of the CAA that describes the area source program, including the urban area source program.

*CAA Section 112(f)* means the section of the CAA that describes the residual risk program.

*CAAAC* means the Clean Air Act Advisory Committee. The CAAAC is a senior-level policy committee EPA established under the Federal Advisory Committee Act to advise the Agency on CAA issues.

*EPA* means the U.S. Environmental Protection Agency.

*EJ* means environmental justice.

*HAPs* means hazardous air pollutants as defined under section 112(a) of the CAA.

*MACT* means maximum achievable control technology, which is the level of control on which the NESHAP are based.

*NATA* means EPA's National Air Toxics Assessment.

*NTI* means the EPA National Toxics Inventory.

*NESHAP* means National Emission Standards for Hazardous Air Pollutants. The EPA has developed these standards under the authority of section 112 of the CAA.

*PBTs* means persistent bioaccumulative toxics.

*S/L/T* means State/local/Tribal.

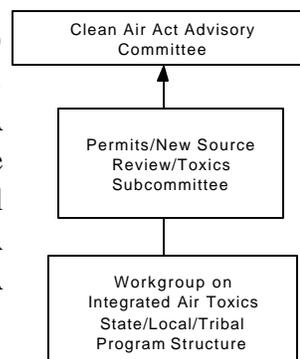
*STAPPA/ALAPCO* means State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials.

*VOCs* means volatile organic compounds.

# 1.0 INTRODUCTION

## 1.1 Formation of the Workgroup

In February 2000, the U.S. Environmental Protection Agency (EPA) created a workgroup under the Clean Air Act Advisory Committee's (CAAAC) Subcommittee for Permits/ New Source Review/Toxics. The EPA created the workgroup to obtain stakeholder input on how to structure State/local/Tribal (S/L/T) programs under the risk-based phase of the national air toxics program. The CAAAC is a senior-level policy committee EPA established in 1990 under the Federal Advisory Committee Act. The EPA created CAAAC to advise the Agency on Clean Air Act (CAA) issues. The EPA has created several subcommittees under the CAAAC, including the Permits/New Source Review/Toxics Subcommittee (more information about CAAAC can be found at <http://www.epa.gov/oar/caaac/>). The location of the workgroup with respect to the committee is shown in Figure 1.1.



**Figure 1.1 CAAAC Structure**

The current workgroup consists of 21 members<sup>1, 2</sup> representing State and local agencies (6), cities and elected officials (2), an academic association (1), tribal authorities (1), environmental groups (2), environmental justice (EJ) groups (2), industry (4), and EPA (3).

## 1.2 Workgroup Charge

The CAA directs EPA to reduce risk from air toxics in two phases at the Federal level: first, through development and implementation of technology-based standards termed National Emission Standards for Hazardous Air Pollutants (NESHAP), or Maximum Achievable Control Technology standards (MACT), area source standards, and mobile source standards. These technology-based standards also include those EPA is developing under section 112(k)(3)(B) for area sources, accounting for 90 percent of the emissions from the 30 hazardous air pollutants (HAPs) posing the greatest threat to public health in urban areas. In the technology-based phase, the CAA requires EPA to issue a range of air pollution control technology standards for 174 source categories to address the national air toxics problem. In addition to the Federal program, many State and local air pollution control programs have been in place and have been reducing air toxics for many years. Collectively, these programs have resulted in significant reductions in air toxics emissions.

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<sup>1</sup> During the process three original workgroup members resigned; the workgroup membership list appears in Appendix A.

<sup>2</sup>Five of the workgroup members are also members of the Permits/New Source Review/Air Toxics Subcommittee.

In addition to the technology-based standards, the CAA also contains risk-based air toxics goals for protection of human health and the environment that are specified in the law. To address these goals, the CAA also provides EPA with the authority to issue additional standards to address remaining air toxics risk as necessary after the technology-based standards. However, some of these remaining air toxics risks may be variable and on a smaller geographic scale. While EPA is responsible for developing the residual risk program, the CAA risk-based goals can, in some cases, be met through State, rather than Federal, programs. Therefore, EPA asked the workgroup to establish the details of a program encompassing Federal and S/L/T authorities to coherently address air toxics risks.

In particular, the workgroup was asked to define the interface between Federal and S/L/T programs so that:

- Unacceptable public health risks are addressed across the country, including low income people and people-of-color communities
- An appropriate balance is struck between the need for local flexibility and the need for national support for areas that require Federally mandated programs
- Full advantage is taken of the programs already in place
- The CAA mandates are achieved
- All geographic areas are addressed, regardless of race or income

The EPA's intent is to take input from this group, along with comments that were received in 1999 on the Integrated Urban Air Toxics Strategy, to develop a plan for this program to address the remaining air toxics risk. The EPA will issue the plan by February 2001.

### **1.3 CAA Programs Included Under the Workgroup's Charge**

In addressing the charge, EPA asked the workgroup to address the mandates of the Integrated Urban Air Toxics Strategy. The Integrated Urban Air Toxics Strategy (Strategy) was established under section 112(k) of the CAA and was published on July 19, 1999 (64 Federal Register 38705). There are two primary mandates in the Strategy. One is for EPA to prepare a strategy to control HAP emissions from area sources in urban areas, and the other is to develop a schedule of specific actions that will substantially reduce public health risks posed by HAPs through Federal laws or by the States. The resulting challenge, and the charge of this workgroup, is to develop a program which will result in EPA and S/L/T actions to reduce air toxics risk in urban areas.

In addition, EPA asked the workgroup to consider developing an administrative approach that addresses air toxics risk near stationary sources. The EPA made this request because the Agency is interested in investigating potential opportunities for interested S/L/T programs to participate in the implementation of the CAA residual risk program, which focuses on reducing air toxics risk. The Residual Risk Program was established under section 112(f) of the CAA. The CAA requires a determination of whether there is risk remaining after promulgation of the CAA section 112 source

category technology standards. This determination must be made within 8 years after promulgation.

#### **1.4 Workgroup Report Development Process**

The workgroup met three times face-to-face in Washington, D.C., in February, June and August, 2000. In between these meetings, the workgroup held weekly conference calls. The workgroup's meetings were facilitated by one of the workgroup members, Michael Brintnall of the National Association of Schools of Public Affairs and Administration.

The workgroup requested to be kept informed of EPA's progress in implementing the framework suggested in the report. The workgroup also requested that EPA's plan, which will be issued by February 2001, should be subject to public comment prior to being finalized.

#### **1.5 Report Organization**

The remainder of this report is organized according to the design the workgroup has developed for this overall program. Chapter 2 outlines the structure of the program and discusses the issues critical to the success of the program as a whole. Chapter 3 describes the recommended program in detail in terms of its goals and procedural steps (assessment, program development, program implementation, and the audit and backstop process). There are also several appendices that contain useful background information.

#### **1.6 Air Toxics Problem**

Toxic air pollutants are those pollutants that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects. Examples of toxic air pollutants include benzene, found in gasoline; perchloroethylene, emitted from some dry cleaning facilities; and methylene chloride, used as a solvent by a number of industries. Most air toxics originate from man-made sources, including mobile sources (e.g., cars, trucks, construction equipment) and stationary sources (e.g., factories, refineries, power plants), as well as indoor sources (e.g., building materials and activities such as cleaning). Some air toxics are also released from natural sources such as volcanic eruptions and forest fires.

The EPA's cumulative exposure project suggests that HAP exposures are prevalent nationwide and may pose significant health risks. People exposed to toxic air pollutants at sufficient concentrations may experience various health effects including damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems. Exposure to many of these HAPs may increase the risk of developing cancer or experiencing other serious health effects. In addition to exposure from breathing air toxics, risks also are associated with the deposition of toxic pollutants onto soils or surface waters. These deposits may then be taken up by plants and

ingested by animals and eventually magnified up through the food chain. Like humans, animals may experience health problems due to air toxics exposure.

The air toxics problem is of special concern in urban areas because sources of emissions and people are concentrated in the same geographic area, leading to large numbers of people being exposed to the emissions of many air toxics from many sources. Additionally, while urban exposures to some pollutants may be fairly similar across the country, studies in a number of urban areas indicate that exposures to other pollutants, and any associated risks, may vary significantly from one urban area to the next. In addition to these urban concerns, “hotspots” may be present in rural areas. These areas of elevated risk may be caused by the presence of one or more air toxic emission sources or from the transport of pollutants from more distant locations.

The EPA does not maintain a nationwide monitoring network for air toxics. However, EPA has developed a National Toxics Inventory (NTI) to estimate and track emissions trends for 188 toxic air pollutants regulated under the CAA, which are known as HAPs<sup>3</sup>. As shown in the EPA document “Latest Findings on National Air Quality: 1999 Status and Trends” (August 2000),<sup>4</sup> the sources of air toxic air pollutants are relatively equally distributed between the following four types of sources (although the distribution varies from area to area):

- Major (large industrial) sources
- Area and other sources, which include smaller industrial sources, like small dry cleaners and gasoline stations, as well as natural sources, like wildfires
- Onroad mobile sources, including highway vehicles
- Nonroad mobile sources, like aircraft, locomotives, and construction equipment

In addition, other types of sources are of concern, especially when they are located near population centers. Examples include airports and “peaker plants,” which are smaller power generators used to create additional power when larger power plants are near or at capacity.

## **1.7 State of Knowledge of Air Toxics Risk**

### ***1.7.1 Air Toxics Program History***

Given the charge to the workgroup and the scope of programs to be addressed, the workgroup believes there are sufficient tools available to begin implementing a risk-based program. Many of these tools have their origin in the CAA that was promulgated in 1970 and included provisions for controlling

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<sup>3</sup>Some members of the workgroup are concerned that the NTI is limited in its assessment of area source emissions.

<sup>4</sup>This report is available at <http://www.epa.gov/airtrends/>.

emissions of HAPs. Since then, numerous strategies to control air toxics have been implemented by EPA. With the passage of the CAA amendments of 1990, as noted above, Congress mandated that EPA regulate major sources of HAPs with NESHAPs in the first phase. In the second phase, EPA would evaluate the residual risks that remain after implementation of the NESHAP for each source category and decide which source categories warrant further regulation. As of July 2000, EPA has promulgated 46 NESHAPs for 82 source categories, proposed 10 NESHAPs for 8 source categories, and finalized the Residual Risk Report to Congress. The Residual Risk Report provides an overview of EPA's general risk assessment methods and approaches for evaluating near-source risk. The EPA is currently evaluating residual risk from several source categories.

In addition to these EPA activities, several S/L/T agencies have taken action to address air toxics concerns. Prior to the passage of the 1990 CAA amendments, the Federal air toxics program progressed slowly. In the absence of a strong Federal program, many State and local agencies began to respond to the air toxics problem by developing their own programs (descriptions of some of the current S/L/T air toxics programs are provided in Appendix B). Some of these air toxics programs have been quite successful at reducing emissions of air toxics, notably those in California. In addition to EPA and S/L/T programs, the regulated community has also instituted numerous voluntary air toxics reduction programs (e.g., 33/50, environmental leadership, and responsible care).

The improvement from these programs is seen in the fact that, based on the data in the NTI, estimates of nationwide air toxics emissions have dropped approximately 23 percent between 1990 and 1996. Although changes in how EPA compiled the national inventory over time may account for some differences, EPA and S/L/T regulations, as well as voluntary reductions by industry, have played an important role in achieving large reductions in overall air toxics emissions. However, individual trends for different air toxics vary by pollutant.

Although air pollution control technologies have vastly improved, and large reductions in emissions have been realized, much of the EPA and S/L/T regulatory focus has been on controls and emission reductions rather than estimating actual population exposures to individual and mixtures of air toxics. Therefore, after 30 years of implementing air toxics reduction programs at the Federal, State, and local levels, a basic understanding of the existing risks to public health from exposure to toxic air pollutants on a national level is only beginning to emerge.

### ***1.7.2 Air Toxics Monitoring***

Air toxics monitoring is a good tool for assessing public exposure to air toxics. The EPA's "Air Toxics Monitoring Concept Paper"<sup>5</sup> details the existing EPA and State and local agency HAP monitoring activities and actions expected by 2001. Although there is still a need for more air toxics monitoring, a recent State and Territorial Air Pollution Program Administrators/Association of Local Air

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<sup>5</sup>This paper can be downloaded at <http://www.epa.gov/ttnuatw1/urban/urbanpg.html>.

Pollution Control Officials (STAPPA/ALAPCO) survey indicated that many S/L/T agencies do conduct air toxics monitoring. The EPA has also begun working with S/L/T agencies to implement permanent air toxics monitoring stations and to develop a central repository for the data.<sup>6</sup>

California and New York are two examples of States that have established statewide air toxics monitoring systems. California maintains a comprehensive 21-site monitoring network which monitors for approximately 60 toxic air contaminants. With over 40,000 measurements generated each year, this monitoring data is used to evaluate emission trends, to establish background risk levels, and to prioritize identification and control actions.

The New York State Bureau of Air Quality Surveillance initiated the Toxics Air Monitoring System in 1987. This monitoring network measures 17 volatile organic compounds (VOCs) at various locations across the State. Fifteen out of the 17 VOCs are identified as HAPs by the 1990 CAA amendments. The initial development of the network and analytical capabilities was part of a joint Staten Island/New Jersey Urban Air Toxics Assessment Project coordinated with EPA's Region II office from 1987 through 1989. The network expanded in 1990 to a statewide network.

The goal is to monitor air quality related to toxics in the State's urban, industrial, residential, and rural areas. This network and the resultant report have initiated the development of a long-term toxics air quality database for New York State. The database, one of the most complete in the country, will be used to define, attain, and preserve good air quality in New York State. The data provide actual air quality measurements of the VOCs and is used in the design and management of New York's air quality program, which includes risk assessment, modeling, planning, and trends analyses.

In addition to the California and New York programs, Appendix C provides a brief description of other EPA and State and local studies.

### ***1.7.3 Air Toxics Exposure Modeling***

Although exposures can be estimated with computer models, some States do not have an inventory of air toxics emissions beyond the EPA's Toxic Release Inventory (TRI), which would serve as an input to an exposure model. Some agencies have been reluctant to require or perform risk

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<sup>6</sup>In September 1999, a group of Tribal air professionals, the Institute for Tribal Environmental Professionals (ITEP), and EPA met to discuss the growing needs of Tribes in ambient air monitoring. These discussions have culminated in the establishment of the Tribal Air Monitoring Support (TAMS) Center at EPA's Radiation and Indoor Environments National Laboratory in Las Vegas, Nevada. The TAMS Center is a centralized location where Tribal air quality professionals can obtain air-monitoring training and also arrange for technical support, both at the Center and at Tribal monitoring sites, from Tribal air professionals, EPA, and other experts. The TAMS Center activities will be overseen by a steering committee composed of Tribal air professionals, ITEP, and EPA.

assessments because the results are often controversial and uncertain. Even though the National Academy of Science has deemed risk assessment a valuable tool in assessing public health protection, some States have relied strictly upon control technology standard approaches to reduce air toxics emissions. Nonetheless, many States have used risk assessments to assist in making permitting decisions and in developing control technology requirements for existing sources.

#### ***1.7.4 The Future Outlook***

The good news is that more information is on the horizon nationally. The EPA, States, and others are working to improve the NTI and to expand the air toxics monitoring networks to obtain more data to better understand air toxic emissions and ambient concentrations nationally and locally. The EPA also has proposed the Consolidated Emissions Reporting Rule (CERR) and is seeking comment on the addition of reporting requirements for HAPs<sup>7</sup> (65 FR 33268, May 23, 2000). This information will be used with the developing National Air Toxics Assessment (NATA) initiative to help identify potential problem areas with respect to air toxics risk. (See Appendix D and the attachment to Appendix E for more information on NATA.) As part of the NATA, EPA is using emissions data from the NTI, together with computer models, to estimate population exposures in 1996 and potential health effects associated with the 33 priority air toxic pollutants identified in the NATA. This work will help focus future efforts to reduce air toxics and resultant health effects.

In addition to NATA, the inventory requirements of the EPA's Toxic Release Inventory have been expanded to gather emissions information about source categories which industry had not previously been required to report. Finally, EPA has begun working with S/L/T agencies to evaluate all of the existing air toxics monitoring networks and special studies that have been established over the years and are focusing on the development of a national air toxics monitoring strategy. A successful urban air toxics program will be one that integrates the Federal program with the S/L/T programs and strengthens or complements those existing programs. This can only be accomplished through the sharing of expertise, data analysis, and methodologies which will improve the knowledge base and enable policy makers to address air toxics risk from a public health perspective.

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<sup>7</sup>The STAPPA/ALAPCO supports the reporting of HAPs in the CERR, but believes that if EPA wants to include HAPs in the CERR, the Agency will have to do so in a new proposed rulemaking.

## 2.0 PROGRAM OVERVIEW

### 2.1 Program Structure

The air toxics risks remaining after EPA implements the technology-based elements of the national air toxics program are likely to be variable and require flexibility to address. Therefore, the workgroup recommends a flexible framework that seeks to accommodate existing, mature State and local air toxics programs, as well as S/L/T agencies that will need to develop entire programs. In this framework, the workgroup envisions a very strong role for S/L/T agencies in the development and implementation of risk-based air toxics programs. The workgroup also believes that for the program they are recommending in this document to succeed, it is essential for S/L/T agencies to form partnerships with EPA and for EPA to initiate national standards and programs in several key areas in addition to those EPA has already identified. (See Appendix F for a list of EPA's currently planned activities to implement the national air toxics program.) The workgroup identified the following areas requiring additional action by EPA:

- Accelerate upgrade of diesel engines (require retrofits of older engines, accelerate removal of older vehicles from fleet)
- On-road and off-road motor vehicles (gasoline and diesel) standards
- Gasoline, diesel, and aviation fuel specification
- Standards for commercial marine vessels
- Aircraft, airport emissions, and locomotive standards
- Standards for utilities
- Standards in areas which are preempted from S/L regulation (e.g., portable equipment and equipment used for farm and construction activities that is rated 175 horsepower or lower)
- Development of Federal Action Plans for chemicals that are persistent bioaccumulative toxics (PBTs)
- Standards for other areas of national significance
- Guidance for S/L/T agencies to carry out this program

Finally, the workgroup also recommends that this program be designed to ensure strong stakeholder involvement throughout the process.

The workgroup has structured the program to address air toxics risk reduction at several levels. The program recommended by the workgroup is based on meeting four levels of goals that differ in their geographic scope and address public health outcomes rather than strictly emissions reductions. The program is composed of a four-step process that includes numerous options for implementing each step. This flexibility allows the implementing agency to adopt a program that best fits its needs. The program provides this flexibility by:

- Giving S/L/T agencies an ability to address problems unique to a particular area
- Leveraging existing S/L/T expertise in air toxics programs

- Increasing community capacity and support
- Expediting reduction of exposure

In addition, each of the four steps includes minimum program elements that should be undertaken to complete the step. This structure will allow S/L/T agencies with adequate air toxics authority to continue to implement existing air toxics programs while empowering other agencies to do more. This structure also allows EPA to continue to implement elements of sections 112, 129 and 202(l) of the CAA, address air toxics issues that are of national concern, and assist S/L/T agencies that may be precluded from developing a program.

### 2.1.1 Four Levels of Goals

The overall objective of this program is to protect human health from exposure to toxic air pollutants. To achieve this objective, the workgroup identified four categories of goals based on geographical extent (national, area-wide, near-source and community/neighborhood). As the geographic scope, sources and pollutants addressed, and implementing agencies will differ for each goal category, the workgroup envisions different types of programs to be developed to address the goals for each goal category. Table 2.1 displays each goal category, describes the specific goals developed for each category, and defines the scope of those goals.

**Table 2.1 Program Goals Summary**

Goal Category	Description	Scope
National <sup>8</sup>	<ul style="list-style-type: none"> <li>• Achieve 75% reduction in cancer incidence</li> </ul>	<ul style="list-style-type: none"> <li>• All 188 CAA air toxics</li> <li>• Stationary (major and area) sources in urban areas, nationwide<sup>9</sup></li> <li>• Can take credit for reductions under all laws</li> <li>• Consider cumulative risks from exposures to HAPs emissions from sources in the aggregate<sup>10</sup></li> </ul>

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<sup>8</sup>In addition to the national goals, section 112(k) also requires that EPA develop area source standards to help achieve these goals for urban areas. Specifically, EPA is required to list area source categories and to ensure that 90 percent of the emissions from area sources are subject to standards pursuant to section 112(d).

<sup>9</sup>Some workgroup members interpret the 75% reduction goal as a goal that applies to area sources.

<sup>10</sup>For a discussion of the consideration of cumulative risk, see the Integrated Urban Air Toxics Strategy (64 FR 38706, 38712, July 19, 1999).

**Table 2.1 Program Goals Summary (continued)**

Goal Category	Description	Scope
National	<ul style="list-style-type: none"> <li>Achieve “substantial” reduction in noncancer risks</li> </ul>	<ul style="list-style-type: none"> <li>All 188 CAA air toxics</li> <li>Area sources in urban areas nationwide</li> <li>Can take credit for reductions under all laws</li> <li>Consider cumulative risks from exposures to HAPs emissions from sources in the aggregate<sup>10</sup></li> </ul>
	<ul style="list-style-type: none"> <li>Address disproportionate impacts of air toxics hazards across urban areas, including low-income and people-of-color communities<sup>11</sup></li> </ul>	<ul style="list-style-type: none"> <li>All 188 CAA air toxics</li> <li>Stationary (area and major) and mobile sources in urban areas nationwide<sup>12</sup></li> <li>Consider cumulative risks from exposures to HAPs emissions from sources in the aggregate<sup>10</sup></li> </ul>
	<ul style="list-style-type: none"> <li>Develop standards for issues of national concern to address air toxics emissions that S/L/T agencies can’t adequately address</li> </ul>	<ul style="list-style-type: none"> <li>Standards needed on following sources: mobile sources (e.g., automobiles, marine vessels, aircraft, locomotives), utilities/fuels, persistent bioaccumulative toxics, etc.</li> </ul>
Area-wide	<ul style="list-style-type: none"> <li>Reduce potential cancer risk and non-cancer health impacts</li> <li>Flexibility to express goals as reductions in HAPs emissions, ambient concentration reductions, or reductions in risk</li> </ul>	<ul style="list-style-type: none"> <li>At a minimum, initial EPA list of 33 urban HAPs or functionally equivalent S/L/T list</li> <li>Stationary (major and area) and mobile sources throughout the area defined by the S/L/T</li> </ul>
Near-source	<ul style="list-style-type: none"> <li>Address cancer and non-cancer health impacts at stationary sources that are not yet adequately addressed by EPA or S/L/T programs</li> </ul>	<ul style="list-style-type: none"> <li>Address risks of concern</li> <li>Individual facilities in urban areas and rural hot spots</li> </ul>
Community/neighborhood	<ul style="list-style-type: none"> <li>Address remaining pockets of disproportionate risk after imposition of the other goals</li> </ul>	<ul style="list-style-type: none"> <li>Address HAPs of concern</li> <li>Cumulative health impacts from multiple stationary sources or mobile sources in both urban areas and rural hot spots</li> </ul>

<sup>11</sup>This national goal is based on policy considerations, while the first two goals are based specifically on CAA section 112(k).

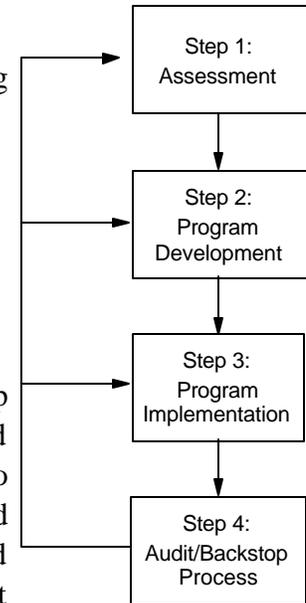
<sup>12</sup>Some workgroup members interpret this goal as a goal that applies to area sources.

### 2.1.2 Four-Step Process

The workgroup has developed a process to achieve the goals consisting of the following four steps to be carried out for each set of goals:

- Assessment
- Program development
- Program implementation
- Audit/backstop process

Generally the flow of the program would be to complete an assessment, develop a program, implement the program, evaluate the success of the program, and implement a backstop, if necessary, to make further progress. This is meant to be an iterative process. For instance, the entire process may need to be repeated when sufficient progress toward the goals is not made. Also, by monitoring and assessing progress throughout the process, EPA and S/L/T agencies may find it necessary to revise portions of their program and to repeat implementation of certain steps.



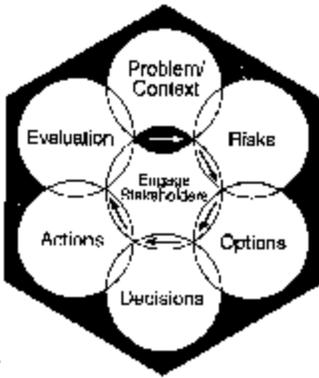
**Figure 2.1 Four-Step Process**

The workgroup used the final report from the Presidential/Congressional Commission on Risk Assessment and Risk Management entitled “Framework for Environmental Health Risk Management” as a resource in the development of this program. The workgroup discussed information in this document, particularly concerning the involvement of stakeholders and the public throughout the four steps of the program.

The Commission’s Framework defines a clear, six-stage process for risk management that can be scaled to the importance of a public health or environmental problem, and that:

- Enables risk managers to address multiple relevant contaminants, sources and pathways of exposure, so that threats to public health and the environment can be evaluated more comprehensively than is possible when only single chemicals in single environmental media are addressed
- Engages stakeholders as active partners so that different technical perspectives, public values, perceptions and ethics are considered
- Allows for incorporation of important new information that may emerge at any stage of the risk management process

The workgroup believes that the Framework for Environmental Health Risk Management developed by the Commission illustrates a desired process for risk management decision-making (see Figure 2.2) which engages all stakeholders in the development and implementation of a national risk-based program under the urban air toxics program.



**Figure 2.2 “Framework” Diagram from the Presidential/Congressional Commission on Risk Assessment and Risk Management Final Report, Volume 1, 1997**

### ***2.1.3 Responsible Agencies***

The level of government responsible for implementing the steps of the program varies according to the goal type and the ability of the agency to participate. The workgroup anticipates that all levels of government may participate in developing the minimum program elements of the program. However, some agencies may not be able to develop a program for a particular goal, may choose not to because it is not a priority within the agency, or may lack the financial resources to take on this new task. The level of government responsible for implementing the goals will be one of, or a combination of, the following:

- EPA
- State agency
- Local agency
- Tribal entity

For example, a Tribe may not be able to develop and implement a risk-based air toxics program on their reservation, and may choose to allow EPA to implement a program. Similarly, a community may not have sufficient resources to develop a community-based program and may rely upon the State to do so.

### ***2.1.4 Minimum Program Elements and Program Options***

The workgroup’s recommended framework includes certain activities that must be completed within each step. These activities are referred to as minimum program elements. The minimum program elements are discussed in greater detail in Sections 3.2 through 3.5 in connection with each of the four steps. The workgroup believes that there are several options available in carrying out each minimum program element. This gives the implementing agency flexibility in developing a program for each goal in their area. Depending on the implementing agency’s circumstances, different options may

be more viable than others. All of the options provided currently exist, and more information describing each option is contained in Section 3.0 of this report. However, it may be necessary for EPA to develop guidance for some of the options. For example, EPA has already made available health-based values for many HAPs (see Appendix D for locations of information on health-based values). It is critical that EPA publish health-based values for *all* of the HAPs addressed in this program, especially for S/L/T agencies that do not have their own set of health values.

Table 2.2 provides information on the *overall* program and which agency is primarily responsible for implementing the steps to achieve each goal. The activities listed below the implementing agency in each column are the minimum program elements (broadly defined) for each step. Tables 2.3 - 2.6 provide more detail for each of the four goal areas, including the available options for each minimum program element. For example, Table 2.3 shows the structure of the *Federal Program to Address National Air Toxics Risk Goals*. For each step beginning with Assessment, the tables provide, across each row, the timeframe, the goals, minimum program elements, and options that may be used to meet the minimum program elements. These five tables provide the reader with a visual guide to the framework and illustrate a wide variety of measures an agency may undertake to create a program.

**Table 2.2 Overall Program to Address Air Toxics Risk**

	National Risk Goals	Area-Wide Risk Goals	Near-Source Risk Goals	Community/ neighborhood Risk Goals
Responsible Agency	EPA	EPA & S/L/T	EPA & S/L/T	EPA & S/L/T
Step 1: Assessment ↓	Characterize national ambient air toxics risks	Characterize S/L/T area-wide air toxics risks	Affected sources conduct screening or refined source risk assessment	Develop tools to conduct cumulative risk assessments
Step 2: Program Development ↓	Identify issues of national concern and develop regulations/other programs to reduce risk	Identify priority HAPs and HAP sources/source categories and develop plan to reduce emissions or risk	Identify priority HAPs and HAP sources/source categories and develop plan to reduce emissions or risk	Identify priority HAPs and HAP sources/source categories and develop plan to reduce cumulative risk
Step 3: Program Implementation ↓	Implement program plan to reduce risks and meet Federal goals	Implement program plan to reduce risks and meet S/L/T goals	Implement program plan to reduce source emissions, reduce risks, and meet near-source goals	Implement program plan to reduce cumulative exposures, reduce risks, and meet community/neighborhood goals
Step 4: Audit/Backstop	Perform evaluation to determine if goals/plan have/has been met and perform further action if necessary	Perform evaluation to determine if goals/plan have/has been met and perform further action if necessary	Perform evaluation to determine if goals/plan have/has been met and perform further action if necessary	Perform evaluation to determine if goals/plan have/has been met and perform further action if necessary

**Table 2.3 Federal Program to Address National Air Toxics Risk Goals**

	Timeframe	National Goals	Minimum Program Elements	Options
Step 1: Assessment ↓	2003	Characterize national ambient air toxics risks	<ul style="list-style-type: none"> <li>• Compile national toxics emissions inventory (NTI)</li> <li>• Establish or update health-based values</li> <li>• Characterize risks from 188 HAPs of concern and sources responsible through the NATA methodology</li> <li>• Stakeholder process</li> <li>• Develop a process for identifying communities disproportionately impacted by air toxics emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Inventory</li> <li>• Modeling</li> <li>• Monitoring</li> <li>• Combination of approaches</li> <li>• Establish 1990 emissions inventory baseline</li> </ul>
Step 2: Program Development ↓	2003 - 2006	Develop Federal plan and options to reduce risks	<ul style="list-style-type: none"> <li>• Identify priority HAPs and sources</li> <li>• Develop stakeholder process for setting priorities</li> <li>• Develop options to reduce emissions</li> <li>• Provide opportunity for public review and comments</li> <li>• Develop options to measure progress</li> </ul>	Command & control approaches: <ul style="list-style-type: none"> <li>• NSR (MACT, BACT, RACT)</li> <li>• Existing source (MACT, BACT, RACT)</li> <li>• Vehicle standards</li> <li>• Fuel requirements</li> <li>• Evaporative standards</li> <li>• Retrofit requirements</li> </ul> Other approaches: <ul style="list-style-type: none"> <li>• Facility audit and plan</li> <li>• Notification (right-to-know)</li> <li>• Incentives</li> <li>• Pollution prevention/source education</li> <li>• Compliance assistance</li> <li>• Market-based approaches</li> </ul>
Step 3: Program Implementation ↓	2005 - 2010	Implement program plan to meet national goals	<ul style="list-style-type: none"> <li>• Schedule that meets goal deadlines</li> <li>• Public participation process</li> <li>• Adequate resources and authority</li> <li>• Ways to measure progress</li> <li>• Process for amending plan</li> </ul>	Approaches for CAA authority: <ul style="list-style-type: none"> <li>• Existing (e.g., Federal risk-based mandates under CAA) authority</li> <li>• New authority</li> </ul> Approaches for measuring progress: <ul style="list-style-type: none"> <li>• Emission inventory</li> <li>• Monitoring</li> <li>• Modeling</li> </ul>

<p>Step 4: Audit/Backstop</p>	<p>2010 - 2012</p>	<p>Reassess to determine if goals have been met</p> <p>Implement backstop, if needed</p>	<ul style="list-style-type: none"> <li>• Periodic audit process</li> <li>• Backstop</li> <li>• Public participation</li> </ul>	<p>For Audit: NATA</p> <p>For Backstop: to be determined</p> <p>For public participation:</p> <ul style="list-style-type: none"> <li>• Public notification</li> <li>• Publish data</li> <li>• Public meetings</li> <li>• Community-based research</li> <li>• Public comment</li> </ul>
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**Table 2.4 S/L/T Program to Address Area-Wide Air Toxics Risk Goals**

	Timeframe	Area-Wide Risk Goals	Minimum Program Elements	Options
Step 1: Assessment ↓	2003	Characterize area-wide air toxics	<ul style="list-style-type: none"> <li>• Compile emission inventory, modeling or monitoring data or combination</li> <li>• Evaluate the cancer risk and non-cancer health impacts from, at a minimum, each HAP on EPA's list of 33 HAPs or on S/L/T functionally equivalent list</li> <li>• Stakeholder and public participation process</li> <li>• Develop process for identifying communities disproportionately</li> </ul>	For emissions reduction approach: <ul style="list-style-type: none"> <li>• Functionally equivalent S/L/T emissions inventory</li> <li>• Monitoring data</li> <li>• Monitoring data/emissions inventory combination</li> </ul> For risk-based reduction approach: <ul style="list-style-type: none"> <li>• EPA's emissions inventory and/or health values</li> <li>• S/L/T functionally equivalent emissions inventory and/or health values</li> </ul>
Step 2: Program Development ↓	2003 - 2006	Develop area-wide plan and options to reduce emissions or risk  Develop regulation/ infrastructure to implement plan	<ul style="list-style-type: none"> <li>• Identify priority HAPs and source categories</li> <li>• Develop stakeholder process for setting reduction priorities</li> <li>• Develop options to reduce emissions</li> <li>• Provide opportunity for public review and comments</li> <li>• Develop options to measure progress</li> </ul>	Command & control approaches: <ul style="list-style-type: none"> <li>• NSR (MACT, BACT, RACT)</li> <li>• Existing source (MACT, BACT, RACT)</li> <li>• Federal vehicle standards</li> <li>• Federal fuel requirements</li> <li>• Evaporative standards</li> <li>• Retrofit requirements</li> </ul> Other approaches: <ul style="list-style-type: none"> <li>• Transportation planning</li> <li>• Facility audit and plan</li> <li>• Notification (right-to-know)</li> <li>• Incentives</li> <li>• Pollution prevention/source education</li> </ul>
Step 3: Program Implementation ↓	2005 - 2010	Implement program plan to meet area-wide goals	<ul style="list-style-type: none"> <li>• Schedule for activities to meet goals</li> <li>• Public participation process</li> <li>• Adequate resources and authority</li> <li>• Ways to measure progress</li> <li>• Process for amending plan</li> </ul>	Options to identify and allocate resources: <ul style="list-style-type: none"> <li>• Federal 105 funds</li> <li>• Title V fees</li> <li>• Performance Partnership Agreements</li> <li>• Partnerships with industry (project XL)</li> <li>• Market-based program fees</li> <li>• Fee-based inventory reporting</li> </ul> Options for measuring program: <ul style="list-style-type: none"> <li>• <u>Emission inventory approach</u>: demonstrate reduction in emissions of the top 10 priority HAPs or risk-based reductions</li> <li>• <u>Modeling approach</u>: demonstrate reduction using modeled concentrations with risk component</li> <li>• <u>Monitoring approach</u>: demonstrate reduction</li> </ul>

**Table 2.4 S/L/T Program to Address Area-Wide Air Toxics Risk Goals (continued)**

	Timeframe	Area-Wide Risk Goals	Minimum Program Elements	Options
Step 4: Audit/Backstop	2010 - 2012	Reassess to determine if goals have been met  Implement backstop if needed	<ul style="list-style-type: none"> <li>• Periodic audit process</li> <li>• Backstop</li> <li>• Public participation</li> </ul>	<p>For audit:</p> <ul style="list-style-type: none"> <li>• Periodic audit to measure progress toward plan</li> <li>• Full audit at end of process to measure progress toward goals</li> </ul> <p>For backstop:</p> <ul style="list-style-type: none"> <li>• Implement backstop if there is a lack of progress in plan activities</li> <li>• Implement backstop if there is a lack of progress toward the goals</li> </ul> <p>For public participation:</p> <ul style="list-style-type: none"> <li>• Public notification</li> <li>• Public meetings</li> </ul>

**Table 2.5 Overview of State/Local/Tribal Program to Address Near-Source Risk Goals**

	Timeframe	Near-source Risk Goals	Minimum Program Elements	Options
← Step 1: Assessment ↓	2003	Affected sources conduct screening or refined source risk assessment	<ul style="list-style-type: none"> <li>• Identify sources of concern</li> <li>• Establish or update health-based values</li> <li>• Stakeholder and public participation process</li> <li>• Identify communities disproportionately impacted by air</li> </ul>	Source identification: <ul style="list-style-type: none"> <li>• S/L/T ambient risk assessment</li> <li>• Use existing methodology such as the California Air Resources Board's Hot Spot Methodology or other comparable guidance</li> </ul>
← Step 2: Program Development ↓	2003 - 2006	Develop near-source plan and options to reduce emissions or risk  Develop regulation/ infrastructure to implement plan	<ul style="list-style-type: none"> <li>• Identify priority HAPs and sources of near-source risk</li> <li>• Develop stakeholder process for setting reduction priorities</li> <li>• Develop options to reduce emissions</li> <li>• Provide opportunity for public review and comments</li> <li>• Develop options to measure progress</li> </ul>	Command & control approaches: <ul style="list-style-type: none"> <li>• NSR (MACT, BACT, RACT)</li> <li>• Existing source (MACT, BACT, RACT)</li> <li>• Source-specific regulation</li> <li>• Risk-based trigger for regulatory control</li> </ul> Other approaches: <ul style="list-style-type: none"> <li>• Facility audit and plan</li> <li>• Notification (right-to-know)</li> <li>• Incentives</li> <li>• Pollution prevention/source education</li> <li>• Market based</li> </ul>
Step 3: Program Implementation ↓	2005 - 2010	Implement program plan to meet near-source goals	<ul style="list-style-type: none"> <li>• Schedule for activities to meet goals</li> <li>• Public participation process</li> <li>• Adequate resources and authority</li> <li>• Ways to measure progress</li> <li>• Process for amending plan</li> </ul>	Progress measurement options: <ul style="list-style-type: none"> <li>• Reduction in near-source monitoring values</li> <li>• Reduction in facility emissions</li> <li>• Reductions in facility modeled values</li> <li>• Rely on ambient risk measurement</li> <li>• Site-specific health risk assessments</li> </ul>

Step 4: Audit/Backstop	2010 - 2012	<p>Reassess to determine if goals have been met</p> <p>Implement backstop if needed</p>	<ul style="list-style-type: none"> <li>• Periodic audit process</li> <li>• Backstop</li> <li>• Public participation</li> </ul>	<p>For audit:</p> <ul style="list-style-type: none"> <li>• Periodic audit to measure progress toward plan</li> <li>• Full audit at end of process to measure progress toward goals</li> </ul> <p>For backstop:</p> <ul style="list-style-type: none"> <li>• Implement backstop if there is a lack of progress in plan activities</li> <li>• Implement backstop if there is a lack of progress toward the goals</li> </ul> <p>For public participation:</p> <ul style="list-style-type: none"> <li>• Public notification</li> <li>• Public meetings</li> </ul>
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**Table 2.6 Overview of State/Local/Tribal Program to Address Community/Neighborhood Risk Goals**

	Timeframe	Community/ Neighborhood Risk Goals	Minimum Program Elements	Options
Step 1: Assessment ↓	2003 - 2005	Conduct cumulative risk assessments	<ul style="list-style-type: none"> <li>• Stakeholder public participation process</li> <li>• Identify communities disproportionately impacted by air toxics emissions</li> <li>• Assemble EJ stakeholder advisory committee</li> <li>• Other elements to be determined</li> </ul>	<ul style="list-style-type: none"> <li>• Use EPA's cumulative risk guidance, or S/L/T functionally equivalent guidance</li> </ul>
Step 2: Program Development ↓	2003 - 2008	Develop protocol to reduce risk	To be determined	To be determined

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Step 3: Program Implementation</p> <p style="text-align: center;">↓</p>	<p>2005 - 2012</p>	<p>Implement program plan to meet community risk goals</p>	<p>To be determined</p>	<p>To be determined</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Step 4: Audit/Backstop</p>	<p>2012 - 2020</p>	<p>Reassess to determine if goals have been met</p> <p>Implement backstop, if needed</p>	<ul style="list-style-type: none"> <li>• Periodic audit process</li> <li>• Backstop</li> <li>• Public participation</li> </ul>	<p>To be determined</p>

### 2.1.5 *Implementation Options*

In addition to four levels of goals and the four steps, the workgroup also recommends four implementation options that address different approaches S/L/T agencies can use to carry out this program. The workgroup developed the implementation options because it believes it is important to understand how the S/L/T agencies might implement their respective programs under the current air toxics program structure and EPA's role in the process.

For the S/L/T goals, the S/L/T agencies will need to determine:

- How their existing program may meet any or all of the area-wide, near-source, and community/neighborhood goals
- How they can develop a program that will meet any or all of the area-wide, near-source and community/neighborhood goals

The EPA's role will be to develop regulations/programs to reduce emissions from sources under their jurisdiction (e.g., mobile sources, motor vehicle fuels, other sources that are national in scope), to identify minimum program elements, and to help ensure S/L/T programs have these elements. The EPA will help S/L/T agencies meet the goals the S/L/T agencies set for themselves, which will enable EPA, ultimately, to show progress toward and meet the national goals. In the workgroup's recommended framework, EPA may, in some cases, have to develop entire S/L/T programs, or, in other cases, serve as a partner to assist S/L/T agencies in developing programs. The EPA's role may vary considerably, depending on the situation in the area in question.

According to the timeframes recommended in this report, the workgroup anticipates that the implementing agency will need to make a choice of which implementation option to pursue by 2002. The workgroup also believes that, since Federal funding is a critical issue for this program, S/L/T agencies will have to meet minimum elements in order to gain program approval from EPA.

The workgroup identified four implementation options. These options are also described in Figure 2.3. They are:

EPA-S/L/T Partnership. The S/L/T may choose to design programs to meet its area-wide, near-source, and community/neighborhood goals in partnership with EPA. The S/L/T would develop a program that conformed with each of the minimum elements and agreed to the timeframe. In order to formalize the partnership, the agencies would enter into a memorandum of agreement (MOA) with EPA Regional Offices to complete the program. An MOA is an agreement between EPA and its regulatory partners which establishes a framework for leveraging the work of State and Federal personnel to

accomplish mutually agreed-upon goals. Another possibility would be to use Performance Partnership Agreements with clearly defined goals and benchmarks.<sup>13</sup>

S/L/T Plan. This implementation option is designed primarily for agencies that have (or soon will have) established air toxics programs. The EPA Regional Offices may certify that the existing S/L/T program meets the minimum elements and that the program is likely to meet the prescribed goals. Alternatively, the S/L/T may also perform a self-certification using specific guidelines or a process similar to that established through section 112(g) of the CAA.<sup>14</sup>

Delegation Approach. The S/L/T may be precluded from being more stringent than the Federal program. Therefore, in this case, through the Regional Offices and in conjunction with headquarters for national rules as necessary, EPA would develop a generic Federal program for the area-wide, near-source and community/neighborhood goals. The S/L/T would adopt the programs/standards and seek delegation, just as the MACT program is delegated to States.

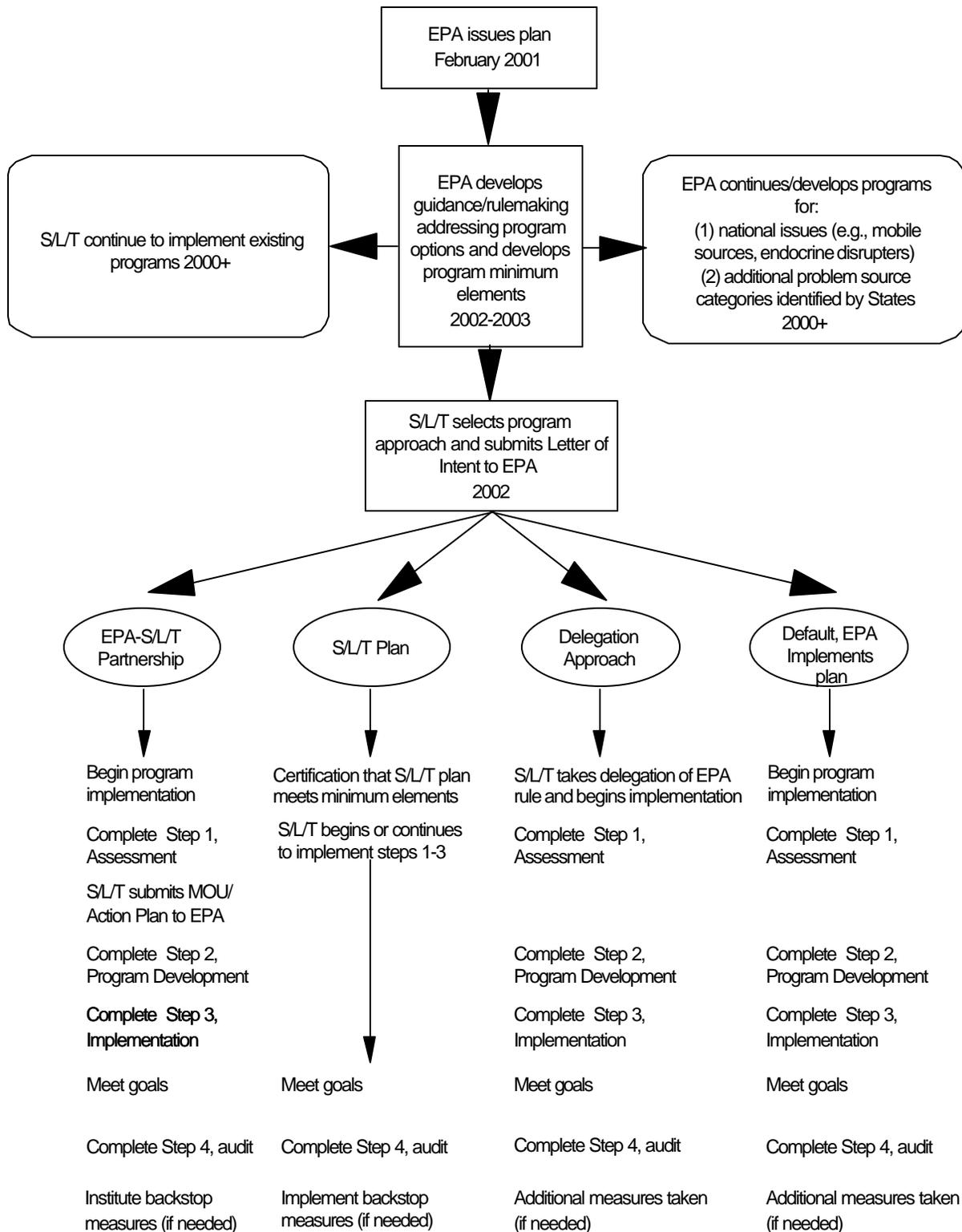
Default: EPA Implements Plan. In this case, an S/L/T may choose not to accept delegation. In this case, EPA would implement the Federal program in that area. Again, the Regional EPA Offices would have the initial, primary responsibility of taking the lead to implement the air toxics program in specific areas.

The order in which program activities under each of these approaches are to be implemented is shown in Figure 2.3. In addition, the timeframes for implementation of these activities and the other phases of the overall program are presented in Table 2.7. As these timeframes are ambitious, it is critical for S/L/T agencies to begin planning for this program immediately.

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<sup>13</sup>Performance Partnerships are a key component of the National Environmental Performance Partnership System (NEPPS), one of several reinvention initiatives launched by EPA designed to redefine the Federal/State oversight relationship. The purpose of NEPPS is to encourage States and EPA to direct scarce resources to the highest environmental priorities, provide States greater flexibility to achieve improved results, enhance public understanding of environmental conditions and choices, and improve accountability for performance. Performance Partnership Agreements are the strategic documents that provide the framework for States and EPA in the NEPPS process. These agreements are a product of joint planning and priority-setting between States and EPA, with the ultimate goals of improving environmental performance and strengthening relationships.

<sup>14</sup>The workgroup disagrees on which of these certification options should be used in the final program. Some members on the workgroup do not support self-certification. These workgroup members believe that EPA should certify the adequacy of programs.



**Figure 2.3 Program Implementation Options**

**Table 2.7 Timeframe for Implementation of Program Activities<sup>15</sup>**

Timeframe	Activity
1999	<ul style="list-style-type: none"> <li>EPA issues Tier 2 rule for stringent new emissions standards and gasoline sulfur controls to reduce NO<sub>x</sub>, HC, and PM emissions from light-duty vehicles and light-duty trucks</li> </ul>
2000	<ul style="list-style-type: none"> <li>EPA promulgates remaining combustion standards</li> <li>EPA reaffirms 1997 heavy duty diesel standards</li> <li>EPA plans to issue diesel fuel sulfur control and post-2004 heavy duty standards</li> <li>EPA plans to issue Section 202(l) rule to designate motor vehicle air toxics and consider control options, particularly for benzene and formaldehyde</li> <li>EPA will complete the 1996 national assessment</li> <li>EPA will initiate the 1999 national assessment</li> <li>EPA makes regulatory determination for air toxics emissions (including mercury) from electric utilities</li> </ul>
2001	<ul style="list-style-type: none"> <li>EPA issues plan for how to structure the national, risk-based air toxics program</li> <li>EPA plans to issue Tier 3 rule on nonroad diesel fuel control</li> </ul>
2002	<ul style="list-style-type: none"> <li>EPA develops 10-year air toxics standards</li> <li>S/L/T selects program implementation option</li> </ul>
2002 - 2003	<ul style="list-style-type: none"> <li>EPA develops guidance/rulemaking to carry out the national, risk-based air toxics program</li> </ul>
2002 - 2004	<ul style="list-style-type: none"> <li>EPA develops any necessary residual risk standards (for 2- and 4-year technology standards)</li> </ul>
2003	<ul style="list-style-type: none"> <li>For the national, area-wide, and near-source goals, complete Step 1, Assessment</li> </ul>
2003	<ul style="list-style-type: none"> <li>S/L/T begins risk-based program or continues to implement existing program</li> <li>For the area-wide risk goals, S/L/T agencies assess the area-wide potential cancer risks and non-cancer health impacts throughout the State or region from, at a minimum, each HAP on EPA's list of 33 HAPs or on S/L/T functionally equivalent list</li> </ul>
2003 - 2005	<ul style="list-style-type: none"> <li>For the community/neighborhood goals, complete Step 1, Assessment</li> </ul>
2003 - 2006	<ul style="list-style-type: none"> <li>For the national, area-wide, and near-source goals, complete Step 2, Program Development</li> </ul>
2003 - 2008	<ul style="list-style-type: none"> <li>For the community/neighborhood goals, complete Step 2, Program Development</li> </ul>

<sup>15</sup>Timeframes need to be reviewed for integration with existing Tribal programs.

**Table 2.7 Timeframe for Implementation of Program Activities (continued)**

Timeframe	Activity
2004	<ul style="list-style-type: none"> <li>• For the area-wide risk goals, S/L/T agencies should develop a plan and risk reduction goal for reducing risks for locations identified on phase one</li> <li>• EPA develops regulation (if positive determination is made) for utilities</li> </ul>
2005 - 2010	<ul style="list-style-type: none"> <li>• For the national, area-wide, and near-source goals, complete Step 3, Program Implementation</li> </ul>
2005 - 2012	<ul style="list-style-type: none"> <li>• For the community/neighborhood goals, complete Step 3, Program Implementation</li> </ul>
2006	<ul style="list-style-type: none"> <li>• For the near-source risk goals, S/L/T agencies should develop a program to identify, prioritize, and reduce near-source impacts from stationary sources</li> </ul>
2009	<ul style="list-style-type: none"> <li>• EPA promulgates last group of area source standards</li> </ul>
2010	<ul style="list-style-type: none"> <li>• EPA evaluates progress towards meeting national goals</li> <li>• For the near-source risk goals, using EPA-approved health-based guidelines or S/L/T functionally equivalent health-based guidelines, S/L/T agencies should achieve significant reductions in cancer risk and non-cancer health impacts near major and area sources of HAP emissions in urban and rural areas</li> <li>• S/L/T agencies meet area-wide goals</li> <li>• For the national, area-wide, and near-source goals, each S/L/T shall audit and prepare a report on its air toxics program. There shall be a comment period on the draft report with appropriate public hearings/meetings throughout the S/L/T area</li> </ul>
2010 - 2012	<ul style="list-style-type: none"> <li>• For the national, area-wide, and near-source goals, complete Step 4, Audit/Backstop</li> </ul>
2012 - 2020	<ul style="list-style-type: none"> <li>• For the community/neighborhood goals, complete Step 4, Audit/Backstop</li> </ul>
2012	<ul style="list-style-type: none"> <li>• For the area-wide risk goals, S/L/T agencies reassess area-wide risks and non-cancer health impacts throughout the State or region as identified in phase one</li> </ul>
2020 +	<ul style="list-style-type: none"> <li>• EPA and S/L/T agencies repeat the audit process in 2020 and every 10 years thereafter</li> </ul>

## **2.2 Critical Issues for Overall Program Success**

The workgroup has identified several issues that are critical to the overall program and its implementation. The workgroup believes the success of this program hinges upon these issues and how they are addressed and resolved. It is essential for EPA to address these issues.

### ***2.2.1 EPA's Obligation to Address Mobile Sources and Other Areas Within the Agency's Jurisdiction***

Assessments performed to date have shown that mobile sources in particular contribute significantly to ambient risks. State programs that have been successful at significantly reducing ambient risks have done so by addressing both stationary and mobile sources. The workgroup recognizes that many S/L/T agencies do not have the authority to address mobile sources through standards. The workgroup believes that mobile source standards are critical for meeting goals for air toxics risk reduction and are more appropriately addressed at the national level. The workgroup also believes that for the program they are recommending in this document to succeed, it is essential for S/L/T agencies to form partnerships with EPA and for EPA to initiate national standards and programs in several key areas in addition to those EPA has already identified. (See Appendix F for a list of EPA's currently planned activities to implement the national air toxics program.) The workgroup identified the following areas requiring additional action by EPA:

- Accelerate upgrade of diesel engines (require retrofits of older engines, accelerate removal of older vehicles from fleet)
- On-road and off-road motor vehicles (gasoline and diesel) standards
- Gasoline, diesel, and aviation fuel specification
- Standards for commercial marine vessels
- Aircraft, airport emissions, and locomotive standards
- Standards for utilities
- Standards in areas which are preempted from S/L regulation (e.g., portable equipment and equipment used for farm and construction activities that is rated 175 horsepower or lower)
- Development of Federal Action Plans for chemicals that are PBTs
- Standards for other areas of national significance
- Guidance for S/L/T agencies to carry out this program

Finally, the EPA should strive to use an approach that focuses on performance rather than command and control in the development of any new standards under this program.

### ***2.2.2 Need for Functional Equivalency***

This program has been designed to be flexible, which increases the need for S/L/T agencies to be able to rely on a concept of functional equivalency. In particular, the program is based mostly on

process, through which S/L/T agencies will be able to tailor the program to the specific concerns of their areas. Through this format, S/L/T agencies will be able to develop goals specific to their concerns, and to meet those goals through activities they choose to implement. While this program does specify certain core items that must be a part of any program (minimum elements), there is a great deal of flexibility in the manner in which these items are addressed. To demonstrate the range of possibilities, options available to S/L/T agencies to fulfill the criteria of the minimum elements are presented throughout this report, but S/L/T agencies also have the flexibility to consider other options that will meet the minimum element requirements.

In order to preserve the S/L/T flexibility, the program must allow for functional equivalency, a particular need for existing, mature State air toxics programs. For example, several S/L/T agencies have very well developed air toxics programs and already have plans in place similar to the one described here. To allow for those programs to continue without interference or interruption, this program must have a functional equivalency process. Functional equivalency would allow S/L/T agencies to use approaches, methodologies, or data that are different from those used by EPA, as long as the alternative approaches, methodologies, or data, collectively considered, are likely to achieve the same objective as the EPA approach.

The workgroup supports a functional equivalency process that would provide for both an “up-front” approval prior to S/L/T agencies selecting their program approach, and approval during the plan submittal or plan amendment process. The “up-front” determination of functional equivalency is critical for those S/L/T agencies that have well developed programs or program elements which are equally or more effective than the proposed Federal programs or program elements. Up-front approval would be a simple verification that the S/L/T program has goals that are in line with the goals of this program, and that the S/L/T program meets the minimum elements described for this program. Some examples of program elements eligible for functional equivalency would include, but are not limited to, health risk assessment methodology and health values, priority toxic air contaminants, emissions inventory methodologies, and air toxics monitoring.

Alternatively, some S/L/T agencies may identify alternative approaches, methodologies, or data during the plan development process or later during program implementation. It is critical that these S/L/T agencies have the opportunity to seek approval for functionally equivalent approaches, methodologies, or data. To avoid problems experienced in the past with detailed, line-by-line demonstrations of equivalency, this approval should be based on equivalency of the S/L/T program as a whole.

### ***2.2.3 Emissions from Diesel-Fueled Engines and Vehicles***

In general, the workgroup feels that emissions from diesel-fueled engines and vehicles should be addressed under the recommendations in this report. Emissions from diesel-fueled engines and vehicles include many substances that EPA has listed as HAPs. Fifteen of these have been identified by the

International Agency for Research on Cancer as human carcinogens or probable or possible human carcinogens. Diesel-fueled heavy-duty trucks, buses, light-duty cars and trucks, as well as construction and farm equipment and other nonroad sources, are common in all areas of the country and have been increasing in number. Work in California suggests that diesel particulate matter is the most significant source of toxic emissions in urban areas. While the workgroup recognizes that, as part of the Strategy, some activities to address diesel emissions are already planned, most workgroup members believe that the significant health issues associated with diesel emissions demand that additional national measures be taken to fully address this issue<sup>16</sup>.

#### **2.2.4 Funding and Other Resources**

- Overall need  
The importance of ensuring adequate funding and other resources to develop and implement this program cannot be overstated. Some workgroup members are also concerned about the possibility that EPA could impose an unfunded mandate on the S/L/T agencies. Without adequate funding, the S/L/T agencies will be unable to carry out these programs, and EPA will be left to implement them. If EPA is left to implement this program, the workgroup is concerned that EPA will not have the resources to do so successfully, particularly at the EPA Regional Office level. Lastly, the workgroup seeks CAAAC assistance in addressing these resource concerns.
- EPA needs  
The EPA must also ensure it can carry out its obligations under the program to support the S/L/T agencies. This includes carrying out planned national regulatory development efforts, such as completing the technology-based MACT program, the residual risk program, the area source program, and future national rulemakings related to mobile sources, utilities, and residential combustion. The emissions and risk reductions related to these programs are the starting point of any S/L/T efforts. The EPA also must carry out the tool development activities that are critical to support S/L/T efforts. These activities include modeling, monitoring, and assessment tools, as well as development of public outreach tools.
- S/L/T needs  
Funding is an absolute necessity for S/L/T agencies to develop and implement the framework recommended in this document. The S/L/T agencies anticipate the need for funding from EPA in addition to funds they will be able to raise independently. In some cases, instituting an S/L/T program may only become a political possibility when a certain level of Federal funding is

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<sup>16</sup>See California's Proposed Risk Reduction Plan for Diesel-Fueled Engines and Vehicles at <http://www.arb.ca.gov/toxics/diesel/diesel.htm>.

guaranteed. It is also important that the funding be earmarked for both program implementation and for support of public participation and stakeholder processes.

- Sources of funding

Many existing sources of funding must be considered. All parties will need to be creative in finding sources of funding and will need to maximize efficiency with those resources. Several possible sources of funding have been identified by the workgroup, including:

- CAA section 105 funds
- CAA Title V fees
- Performance Partnership Agreements
- Partnerships with industry (Project XL)
- Market-based program fees
- Fee-based inventory reporting

- Other resource needs

Resources are also needed to ensure that non-governmental stakeholders can play their roles fully. For example, several areas of this report stress the need for community involvement, education, and training. Resources are needed in the following areas to increase community involvement: transportation costs for participants to attend public meetings, training on risk-based approaches, and long-term strategies based on developing and providing environmental education curricula. (Appendix E contains a list of technical resources and guidance materials to aid in the development of risk-based programs.) In addition, as discussed below, resources are essential to providing meaningful incentives for S/L/T agencies, industry, and other stakeholders to participate in the process and to leverage additional resources.

### **2.2.5 Authority**

Section 112(k) of the CAA requires EPA to develop a strategy to control emissions of air toxics in urban areas. The strategy must include actions that will result in the achievement of the urban area goals outlined in Table 2.1:

- Achieve 75% reduction in cancer incidence
- Achieve “substantial” reduction in noncancer risks

Section 112(k) also requires that EPA develop area source standards to help achieve these goals for urban areas. Specifically, EPA is required to list area source categories and to ensure that 90 percent of the emissions from area sources are subject to standards pursuant to section 112(d). In addition to section 112(k), as mentioned above in section 1.3, the CAA also requires EPA to address air toxics risk through the residual risk program (section 112(f)).

The workgroup believes that the technology standards, in combination with other EPA standards and State and local programs, will not be sufficient in *all* cases to reduce air toxics risk to acceptable levels. Therefore, in this report the workgroup is recommending a framework designed to enable EPA and S/L/T agencies to further reduce air toxics risk to acceptable levels. Due to time constraints, the workgroup did not identify specific CAA authorities that would require S/L/T agencies to implement this recommended framework. Before this framework can be implemented nationally, particularly in S/L/T areas that lack authority, EPA must establish or identify appropriate authorities. Some workgroup members believe that EPA must determine what CAA authorities exist beyond sections 112(k) and 112(f) to require S/L/T agencies to utilize this framework to address local risks. Other workgroup members, however, suggest that this framework could be adopted by S/L/T agencies as a comprehensive program (under the authority in section 112(l)) that meets the mandates of sections 112(k) and 112(f), while allowing them to customize goals and strategies to meet local air toxics concerns. This approach provides functional equivalency for S/L/T agencies with adequate air toxics authority, and allows them to more effectively integrate area source and residual risk requirements into existing programs. Also, section 112(f) only requires residual risk assessments for major source facilities (and discretion for area sources) regulated by a section 112(d) standard. Some S/L/T agencies may wish to assess the risks from non-NESHAP sources in order to meet their goals.

However, many S/L/T agencies will need EPA regulations before they will be able to implement risk-based programs. In addition, many workgroup members believe incentives should be devised to encourage S/L/T agencies to implement a program regardless of whether CAA authority exists to require the program.

### **2.2.6 Incentives**

As noted in section 2.2.4, many workgroup members believe incentives should be devised to encourage S/L/T agencies to implement a program, regardless of whether CAA authority exists to require the program. In this incentive-based type of program, not only are incentives needed for S/L/T participation, but also for industry, who would play a large role in the success of an incentive-based program. The industry members of the workgroup note that in creating incentives for industry, it is important to ensure that those who participate, the good actors, are not punished later using information they helped to gather. These members also think the incentives for industry should be largely performance-based. In addition, the workgroup agrees that giving industry relief from requirements must be done carefully, interfacing with the trading program/criteria pollutant program and involving community input. Some members on the workgroup think it is imperative for all incentives to industry to be evaluated through a formal public comment process and that they complement the minimum program elements. In addition, some members believe that, where applicable, there should be an enforcement mechanism to ensure sources still comply with the applicable standards under these incentives. Several suggested incentives for S/L/T agencies and for industry are listed below.

- Incentives for S/L/T agencies to institute a program:
  - < Create a high-profile award for the most successful program
  - < Allow S/L/T agencies to avoid EPA interference; if the S/L/T institutes a program, then EPA will not, although EPA oversight may still be necessary
  - < Allow for extension of timelines if S/L/T agencies make an early commitment to the program
  - < To spur action, provide the public with information about the extent and nature of the air toxics problem
  
- Incentives for industry to take part in this program (applicable options must be verifiable and have some enforcement mechanism):
  - < Give industry ability to streamline some recordkeeping and reporting requirements
  - < Give industry relief from the need to apply for certain types of permits<sup>17</sup>
  - < Provide operational flexibility
  - < Allow for reductions in permit fees<sup>17</sup>
  - < Give industry the opportunity to innovate and develop its own ways to reduce toxic emissions (need clear goals and timeframe)
  - < Reduce toxic air emissions through a voluntary program; the incentive being the promise of reduced additional air toxics emissions regulations in exchange for early, voluntary reductions

### **2.2.7 Stakeholder Involvement**

Including stakeholders and input from the general public in every step of this program is vital to the structure the workgroup has developed. Stakeholder participation is particularly important for risk management because there can be many conflicting interpretations about the nature and significance of risks. The stakeholders must be engaged early in the process as active partners so the different technical perspectives, public values, perceptions, and ethics are considered. For this program, it is important that stakeholder input is considered in the final decision, and the process is not simply a compulsory action. Allowing the public and stakeholders to contribute to the development of this program should produce benefits, including:

- Supporting democratic decision-making
- Ensuring that public values are considered
- Improving the understanding needed to make better decisions
- Improving the knowledge base for decision-making
- Potentially reducing the overall time and expense involved in decision-making
- Improving the credibility of agencies responsible for managing risks

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<sup>17</sup>Some members on the workgroup did not agree that this should be an allowable incentive.

- Generating better accepted, more readily implemented risk management decisions

Creating incentives for stakeholders to become involved at the beginning of the process and through its conclusion may be needed to ensure their sufficient participation. For example, offering community stakeholders monetary resources for child care, transportation expenses, or funding for technical reviews (including money to hire their own consultants and other expenses) could help encourage their participation. The regulatory agency should also investigate the types of communication routes that would be most appropriate to the situation. Offering evening meeting times or communication of information via radio, newspaper, or television may help engage community stakeholders who would otherwise be unable to participate. In most cases, industry, environmental, and other non-governmental organization stakeholders would be attracted most by the opportunity to obtain information about the issues, to keep abreast of new information and developments, to have the ability to make input in the process, and to have the potential to help shape the program.

Some other general guidelines that regulatory agencies should consider in the stakeholder involvement process are shown below. These concepts, as well as the benefits of the stakeholder process discussed above, were presented in the “Framework for Environmental Health Risk Management” created by the Presidential/Congressional Commission on Risk Assessment and Risk Management (<http://www.riskworld.com/Nreports/nr7me001.htm>). Guidelines for stakeholder involvement developed by the Commission include the following:

- Stakeholder involvement should be made part of a regulatory agency’s mission by:
  - < Creating an office that supports stakeholder processes
  - < Seeking guidance from experts in stakeholder processes
  - < Training risk managers to take part in stakeholder involvement efforts
  - < Building on experience of other agencies and on community partnerships
  - < Emphasizing that stakeholder involvement is a learning process
- Regulatory agencies should identify and involve all stakeholder groups as early as possible, beginning with the problem/context stage. Stakeholder involvement efforts should attempt to engage all potentially affected parties and solicit a diversity of perspectives. The optimal process and goals of stakeholder involvement should also be determined at the outset. Stakeholders may include:
  - < Community groups
  - < Representatives of different geographic regions
  - < Representatives of different cultural, economic, or ethnic groups
  - < Local governments
  - < Public health agencies
  - < Businesses
  - < Labor unions
  - < Environmental advocacy organizations

- < Consumer rights organizations
  - < Religious groups
  - < Educational and research institutions
  - < State and Federal regulatory agencies
  - < Trade associations
- Regulatory agencies should be clear about the extent to which they are willing or able to respond to stakeholder involvement before they undertake such efforts. Don't waste stakeholders' time if a decision is not negotiable.
  - Regulatory agencies should convey to stakeholders that it will be necessary for them to be prepared to listen to and learn from diverse viewpoints and to be flexible and willing to negotiate.
  - Where possible, empower stakeholders to make decisions, including providing them with the opportunity to obtain technical assistance.
  - Give stakeholders credit for their roles in a decision, and how stakeholder input was used should be explained. If stakeholder suggestions are not used, explain why.
  - The nature, extent, and complexity of stakeholder involvement should be appropriate to the scope and impact of a decision and the potential of the decision to generate controversy.

In addition, regulatory agencies should acknowledge that the public participation and stakeholder process is important, and that participation rates do not always reflect levels of interest in the issues. Seeking creative solutions to overcome possible barriers to participation may be necessary. Also, involving the community in research is another level of stakeholder participation. In recent years, research involving the community has gained increased legitimacy, because in some instances, traditional academic research has failed to serve their needs. Key stakeholders, including representatives from community groups, government, universities, and industry, work together to define the problem, develop methods for collecting and analyzing data, and apply the results of the research to policymaking and problem-solving. To achieve maximal results and to ensure maximal community participation, these research endeavors could be funded by government agencies.

### ***2.2.8 Environmental Justice Issues***

One of the national EPA goals is to address the disproportionate impacts of air toxics pollution across urban areas and, specifically, low-income and people-of-color communities. This emphasis is consistent with the principles of environmental justice.

The workgroup agrees that EJ concerns need to be integrated within the framework recommended in this document, which the workgroup has done in several places in this report. For example, the workgroup suggests that EPA and S/L/T agencies develop a process to identify communities disproportionately impacted by air toxics emissions, especially low-income and people-of-color communities, as part of the Step 1, assessment process. Another activity recommended in the

framework is the establishment of advisory committees so that the perspectives of stakeholders would be heard on a more continual basis.

Furthermore, the workgroup understands that policy decisions concerning where sources are sited, based solely on science and economics, may inadvertently result in a discriminatory effect. Therefore, the development of urban air toxics programs by S/L/T agencies needs to include consideration of historical patterns of racial and economic segregation in their decision-making.

Community-based research is an important tool that can be used by S/L/T agencies to help improve their understanding of the risks impacting the health and welfare of EJ communities. To fully address this situation, an effort should be made to develop the program based not only on science but also on other aspects important to the community. Community-based research addresses issues which may include socio-economic status, the community's perception of risk, air toxic exposure duration, and other factors based on historical aspects unique to the community. This community-based research can be used to identify the concerns of the community, investigate the scientific basis for those concerns, and research the best approaches to resolving the problems specific to that community. Currently, only a small percentage of research funding is targeted for these types of studies. Additional funding needs to be provided for both training and community-based research.

Community outreach is also an important aspect of community-based research. The workgroup believes that this outreach should be designed to ensure that:

- The community is aware of basic environmental health concepts, issues, and resources.
- The community has a role in identifying and defining problems and risks related to environmental exposures.
- The community is included in the dialogue shaping research approaches to the problem.
- The community actively participates with researchers and health care providers in developing responses and setting priorities for intervention strategies.

One aim of this program is to facilitate the process of developing the trust needed for establishment of effective partnerships among (1) individuals who are adversely impacted by an environmental hazard in a socioeconomically disadvantaged community, (2) researchers in environmental health, and (3) health care providers. Once this aim is achieved, the collaborative team should then be able to initiate a research program that incorporates all parties and seeks to reduce exposure to or health impacts from an environmental contaminant.

Finally, the EPA has already committed to a community-based environmental protection (CBEP) framework, which can help EPA achieve its missions by integrating activities in ways that complement and increase the effectiveness of EPA's regulatory programs. The framework identifies specific goals, strategies, activities, and performance measures EPA will need for implementing the

CBEP approach to environmental management. (For more information on CBEP, see <http://www.epa.gov/cbep/>.)

### **2.2.9 Tribes**

The workgroup agrees that there are special concerns specific to Tribes that need to be considered for the implementation of this program in Tribal areas. Currently, no Tribes have air toxics programs and virtually all lack the infrastructure to build one and to perform this program. The Tribes lack the funding and expertise necessary to implement air toxics programs and do not have a viable means of securing these program components. For this program to be successful in Tribal areas, they will need extensive infrastructure support from EPA.

In addition, the structure of a Tribal program will differ from those of most State or local agencies. Tribes are not held to the same timeframes as State and local agencies under the Tribal Authority Rule, which EPA issued under the CAA (63 FR 7253, February 12, 1998). The EPA must address its trust responsibility to the Tribes, considering sovereignty issues, as EPA assists Tribes in coming to the playing field in a timely fashion. Also, in contrast to many States and local agencies, the Tribal air toxics concerns are generally rural in nature, and would be based on hot-spots or near-source concerns rather than concerns of urban areas.

### **2.2.10 Crisis Intervention**

A concept important to this program is that EPA should be able to intervene in situations where an immediate threat to public health is apparent. These “crisis” situations would include instances where there is evidence that public health is severely compromised due to exposure to air toxics. In the event of these occurrences, EPA or the S/L/T could take action to immediately reduce or eliminate the threat. This process could include two primary actions. The first action would be to alert the public to the threat, offer advice for any actions they could perform to prevent or lessen their health threat, and discuss the actions they plan to take to reduce or eliminate the threat. The other action, which should be performed simultaneously, would be to alleviate the problem. In situations where the threat is due to toxic emissions from stationary sources, this action could range from suspension of a facility’s operating permit to evacuation of a community and facility closure. If the threat is due to toxic emissions from mobile sources, the action could include area-wide fuel requirements.

### **2.2.11 Definition of “Local” Agency and Intergovernmental Relationships**

For the purposes of this report and the framework it presents, “local” agency refers to the agency responsible for administering industrial operating permits, rather than the local government. However, for this program to be successful at the local level, the two agency types will need to work together because each only has partial control of any risk situation created by industrial air toxics emissions. The permitting agency can only regulate the emissions from a facility, while only the local

government can determine facility location through zoning. The workgroup recognizes that incompatible land use issues sometimes result in frustration for both the air permitting authorities and local city and county governments in addressing concerns about toxic exposure in a community. Therefore, when addressing community/neighborhood risks, the two agency types need to be able to coordinate their efforts to address potential toxic risks to a community during the planning process.

Local health departments and State permitting agencies are examples of additional key agencies to involve in this program at the local level. Local health departments will have a broader base of knowledge about public health in the local area and possible effects the risk drivers could present. However, it may be a challenge to involve these agencies, since many local health agencies are not currently involved with local air issues, and may not be immediately aware of their possible role in this process. In some instances, the State environmental agencies, rather than local agencies, may perform the permitting activities for local areas within the State. In these cases, it is important that the State governments work with the local governments to ensure local interests are represented.

### ***2.2.12 Urban Land Use Planning***

The issue of interagency coordination is important to the success of this program on a scale broader than that of coordination between local government agencies. The issues of urban sprawl, greenfield development, brownfield redevelopment, and the development of clean alternatives for mass transportation involve other private and public organizations which are not part of the current stakeholder discussions. These organizations need to be included in any future planning process for the development of a viable urban air toxics strategy as envisioned by the workgroup. Proper and inclusive land use and urban planning can serve as primary prevention tools for many environmental concerns and EJ issues (see Appendix E for resources on this topic). By involving all the key organizations in the process from the onset, this coordination will create greater public awareness of problems, extend enforcement authority, and allow for more thorough reviews of issues from different perspectives. Also, by extending the diversity of the decision-making group, it will be possible to develop more creative solutions to problems.

### ***2.2.13 Other Issues***

During the development of this framework, the workgroup identified several additional concerns during conference calls and face-to-face meetings. However, due to time constraints, the workgroup was unable to fully discuss or develop recommendations for these issues. Appendix G contains a list of these issues.

## **3.0 RECOMMENDED PROGRAM**

This section describes in detail the workgroup's recommended program. The section first addresses program goals (section 3.1) and then addresses the four steps of a risk-based air toxics program (sections 3.2 - 3.5).

In sections 3.2 - 3.5, the report describes minimum program elements and program options for EPA's national program and then for the three implementation options described in section 2.1.5 that S/L/T agencies would implement:

- EPA - S/L/T partnership
- S/L/T plan
- Delegation approach

The minimum program elements and program options also apply to the fourth option described in section 2.1.5: the EPA default option. If an S/L/T decides not to develop its own program, section 2.1.5 provides this option in which EPA develops and implements the program by default. This option would be used if an S/L/T is unable or unwilling to perform any activities associated with this program. Under this option, EPA would take full responsibility to implement and enforce the program in place of the S/L/T. In addition, if the S/L/T is unable or unwilling to take complete delegation of a program developed by EPA, then the S/L/T could form a partnership with EPA. In this situation, the enforcement and implementation responsibilities could be split between the two agencies.

### **3.1 Program Goals Overview**

The EPA has defined the national goals of this program according to CAA mandates and EPA policy considerations. However, in order to achieve these broad national goals, there must be goals for smaller geographical units. This workgroup has defined three additional sets of goals. One set of goals is for air toxics emission reductions that must be met on a statewide or area-wide basis. These goals address the high priority air toxics in the ambient air of a State or Tribal area. The workgroup has also identified near-source goals, which address public health risks associated with the area immediately surrounding stationary sources. Finally, community/neighborhood goals address public health risks associated with the cumulative exposure to air toxics from all sources present in the ambient air of communities.

While there are defined overall program goals set out in the CAA, the workgroup is not defining the goals for the S/L/T programs in the same manner. The area-wide, near-source, and community/neighborhood goals are not defined so precisely. Since each S/L/T has separate concerns, HAPs to address, sources of HAPs, and past achievements in toxics reduction, no single goal can guarantee adequate and equitable air toxic emissions reductions for each S/L/T. Instead, each S/L/T should follow a uniform goal-setting process during the assessment step. By focusing instead on the

goal-setting process, each S/L/T will have the flexibility to design goals that will achieve risk reduction most effectively and efficiently.<sup>19</sup>

The workgroup is concerned that too much focus on risk reduction versus emissions reductions could result in profitless debate in setting effective goals and allow some participants to “game” the system and avoid meaningless reductions. They note that efforts to meet goals should not allow the relocation of pollution at the expense of real reductions. The workgroup also considered alternative forms of goals such as percent of population exposed, a set reduction in the possibility of adverse events, or other health risk management measures. However, the following recommendations are based on fundamental risk management approaches that allow plenty of flexibility for EPA and the S/L/T agencies to arrive at meaningful goals to address air toxics emissions.

### **3.1.1 National Goals**

As part of the Integrated Urban Air Toxics Strategy, EPA established two goals based on the authority found in section 112(k) of the CAA:

- 75% reduction in cancer “incidence” (Section 112(k) (C)), which includes all 188 CAA air toxics, stationary sources,<sup>20</sup> urban areas nationwide, all laws, and consideration of cumulative risks from exposures to HAPs emissions from sources in the aggregate<sup>21</sup>
- “Substantial” reduction in noncancer risks (Section 112(k) (C)), which includes all 188 CAA air toxics, area sources, urban areas nationwide, all laws, and consideration of cumulative risks from exposures to HAPs emissions from sources in the aggregate<sup>21</sup>

The EPA’s third national goal is based on policy considerations and is intended to address disproportionate impacts of air toxics hazards across urban areas, including low income and people-of-color communities. This goal addresses all 188 CAA air toxics, emission sources (area, major, mobile sources), and consideration of cumulative risks from exposures to HAPs emissions from sources in the

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<sup>19</sup>Some workgroup members did not agree with this goal-setting process, arguing that goal uniformity is important. Goal uniformity and equity reduces incentives for industry to relocate to greenfields and would not require EPA review/approval for each S/L/T’s goals.

<sup>20</sup>Some workgroup members interpret the 75% reduction goal as a goal that applies to area sources.

<sup>21</sup>For a discussion of the consideration of cumulative risk, see the Integrated Urban Air Toxics Strategy (64 FR 38706, 38712, July 19, 1999).

aggregate.<sup>21, 22</sup> The workgroup recommends that a target of 2010 be set for evaluating progress toward meeting the national goals.

The workgroup believes that, for the program they are recommending in this document to succeed, it is essential for S/L/T agencies to form partnerships with EPA and for EPA to initiate national standards and programs in several key areas in addition to those EPA has already identified. (See Appendix F for a list of EPA's currently planned activities to implement the national air toxics program.) The workgroup identified the following areas requiring additional action by EPA:

- Accelerate upgrade of diesel engines (require retrofits of older engines, accelerate removal of older vehicles from fleet)
- On-road and off-road motor vehicles (gasoline and diesel) standards
- Gasoline, diesel, and aviation fuel specification
- Standards for commercial marine vessels
- Aircraft, airport emissions, and locomotive standards
- Standards for utilities
- Standards in areas which are preempted from S/L regulation (e.g., portable equipment and equipment used for farm and construction activities that is rated 175 horsepower or lower)
- Development of Federal Action Plans for chemicals that are PBTs
- Standards for other areas of national significance
- Guidance for S/L/T agencies to carry out this program

These standards would address emissions of air toxics that S/L/T agencies are not able to adequately address individually. Without this component, the workgroup believes the CAA goals may not be achievable.

An additional element of goal-setting includes the means to measure progress toward the goals. In the case of the above national goals, EPA will determine the appropriate measurements.

Workgroup members are also especially concerned about the integration of the various goals. Two of the three national goals do not address mobile sources. The workgroup is specifically concerned about how the S/L/T goals will enable the nation to meet the national goal of 75 percent reduction in cancer incidence when that goal focuses on only stationary sources. In addition, the national goal that addresses noncancer risks focuses on just area sources. Because several recent studies have indicated that mobile sources drive the air toxics risk in many urban areas, many

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<sup>22</sup>In addition, section 112(k) also requires that EPA develop area source standards to help achieve these goals for urban areas. Specifically, EPA is required to list area source categories and to ensure that 90 percent of the emissions from area sources are subject to standards pursuant to section 112(d).

workgroup members believe that these two goals, which only look at stationary or area sources, would provide less public health benefit than a goal which also addresses mobile sources. Therefore, the workgroup has developed an area-wide goal category and a community/neighborhood goal category which include assessing and reducing risk from mobile sources.

The workgroup does recognize that in some cases, stationary sources can play a significant role in public health risk; however, the workgroup is concerned about the meaning of the national goal, how progress toward the goal would be measured, and whether the tools exist today to measure such a goal. Rather than focus on the national goal, the workgroup recommends that S/L/T agencies move forward in partnership with EPA, while taking into consideration the focus of the national goals and including stationary sources within the scope of all three S/L/T goals. In the future, as S/L/T agencies report on progress made toward the area-wide, near-source, and community/neighborhood goals, EPA will periodically assess whether that progress is sufficient to enable the nation to meet the national goals.

### ***3.1.2 Area-Wide Goals***

This goal category is intended to address area-wide impacts due to the presence of toxics in the ambient air. The areas addressed by this goal category could vary to include the area within a State's boundaries, a subsection of a State, such as a district, a multi-state metropolitan area, or other area as defined by the S/L/T. The workgroup recommends that a numerical goal be developed in three phases and reflect the process-oriented approach as described for national goals.

The workgroup discussed whether setting area-wide goals was a useful step or a waste of resources. Some members feel that States that had already made a lot of progress in addressing ambient issues should start their program by focusing on near-source and community level goals. Additionally, some members of the workgroup believe that S/L/T agencies without existing, mature programs should look at maximally exposed or vulnerable populations immediately. They argue that delay in addressing these issues will only delay conversations with the public in the most impacted areas, and these lines of communication should be opened now. Such an approach would potentially start addressing EJ and other more local goals sooner. However, other members note that in many areas, area-wide, and more specifically, statewide area-wide goals may result in cost-effective reductions, which benefit local populations. Also, many programs may only have the tools in the near-term to effectively address area-wide goals, and will need several more years to be able to address the near-source and community goals. The workgroup concludes that area-wide goals, combined with the flexibility described below, will achieve the greatest program benefits. Finally, the workgroup recommends that 2010 be established as a target date for meeting these goals.

The area-wide goals focus on potential cancer risk and non-cancer health impacts from both stationary (major and area sources) and mobile sources. In selecting the HAPs to focus on, either EPA could prioritize risk drivers, or the S/L/T could choose risk drivers. The EPA could quantify risk

reduction from mobile source regulations, and the S/L/T could quantify risk reduction from major and area stationary sources.

The S/L/T will develop the statewide (or region-wide) goals in a three-phase process:

Phase one. In the assessment phase, S/L/T agencies should assess the area-wide potential cancer risks and non-cancer health impacts throughout the State or region from, at a minimum, each HAP on EPA's list of 33 HAPs or on an S/L/T functionally equivalent<sup>23</sup> list by 2003. In this assessment, S/L/T agencies should use EPA health-based guidelines or S/L/T functionally equivalent guidelines. Next, S/L/T agencies should prioritize HAPs based on contribution to area-wide potential cancer risk or non-cancer health impacts through an open public process. For priority HAPs, S/L/T agencies should identify locations where ambient risks and non-cancer health impacts exceed a defined target level. A defined target level could be based on an emissions level, ambient concentration level, risk level, or determined by the S/L/T and community in an open public process.

Key elements of this phase include assessing whether the EPA HAP list includes the HAPs that are of most concern in the State or region. For example, some States may have HAPs, or even non-HAPs, that are determined to be the critical risk drivers. The S/L/T agencies should use this information to develop a list of HAPs to target that are of most concern in the area. This flexibility will allow goals to be established that reflects State- or region-specific conditions and that begins to address vulnerable populations.

Phase two. In the program development phase, S/L/T agencies should develop a plan and risk reduction goal by 2004 for reducing risks in locations identified in phase one. The plan should address prioritization of identified locations, specific risk or emission reduction goals as appropriate for each location, timelines for meeting those goals, and timelines for reassessment of area-wide risks. The goals might include overall area-wide ambient reductions in HAPs emissions, concentrations, or risk from identified priority HAPs. The goals might be more site-specific or refined to reduce emissions, concentrations, or risk from specified HAPs in certain identified locations. Emission/risk reduction strategies should address HAPs emissions from mobile, major, and area sources.<sup>24</sup>

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<sup>23</sup>Functional equivalency assumes the S/L/T has met some specified minimum requirements for major program elements of a risk based program. If a program component is deemed functionally equivalent, the S/L/T may substitute their data/approach for EPA's data/approach for that functionally equivalent program component.

<sup>24</sup>Some of the members on the workgroup stress the importance of having S/L/T agencies prioritize their activities by focusing on stationary sources unique to their areas. However, the full weight of the program (of meeting the area-wide risk reduction goals) should not fall to the States and locals when EPA maintains authority over sources of concern, and where, in some cases, S/L/T agencies would be precluded from acting (as with mobile sources).

The workgroup discussed whether the reduction goal should be uniform across all areas. However a pre-determined, uniform goal ignores the results of the risk assessment and may unfairly penalize areas that have already achieved substantial reductions. The workgroup opted for flexibility in the design of phase two, to allow States or regions to establish reductions that are specific to the area in question.<sup>25</sup>

Phase three. By 2012, reassess area-wide risks and non-cancer health impacts throughout the State or region as identified in phase one. Evaluate the need for further risk reduction for all 33 HAPs and any new compounds of concern.

The workgroup determined that there are three options for measuring progress towards achieving the area-wide S/L/T goals. The approaches are the emissions inventory, modeling, and monitoring approaches. The approaches may be used separately or in combination, depending on the exact format of the individual goal and the tools and expertise available to the S/L/T.

The emissions inventory approach contains the following steps:

- Demonstrate reduction in emissions of priority HAPs - could use EPA's emissions inventory, or functionally equivalent S/L/T emissions inventory
- Demonstrate reduction in statewide potency-weighted emissions - could use EPA's emissions inventory and/or health values or use S/L/T functionally equivalent emissions inventory and/or health values

The modeling approach requires the S/L/T to demonstrate reductions using modeled concentrations with risk component. The S/L/T could use either NATA results or an S/L/T functionally equivalent risk analysis. Some members of the workgroup believe that the modeling results need to be verified by monitoring data whenever possible.

The monitoring approach contains the following steps:

- Demonstrate reduction based on monitoring data - could use EPA's monitoring data or use functionally equivalent S/L/T monitoring data
- Demonstrate reduction based on a combination of monitored and potency-weighted emissions - could use EPA's monitoring data, emissions inventory, and health values or could use S/L/T functionally equivalent monitoring data, emissions inventory and health values

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<sup>25</sup>One workgroup member feels that without a specified goal, the program framework does not identify who may have input throughout the process - from identifying risk, to setting goals, to developing a risk reduction plan.

### 3.1.3 Near-Source Goals

The purpose of near-source goals is to address the impacts of toxic emissions from stationary sources.<sup>26</sup> The near-source part of the program will address cancer and non-cancer health impacts from stationary sources (major and area sources) only. It should address all 188 HAPs and/or additional S/L/T toxic air contaminants of concern and will address near-source risks. Through the CAA Residual Risk Program under section 112(f), risk remaining after implementation of technology standards on a source category-wide basis will be addressed. The EPA will be addressing to what extent this program can be delegated to S/L/T agencies, which may become a component of their near-source goals program. The risk assessment procedures developed through this program may also provide S/L/T agencies with a model to follow in assessing and addressing near-source risk. These goals would address near-source risk from single stationary sources or could address cumulative, near-source risk from multiple stationary sources.

The near-source goals should be set in two phases:

- Phase one. By 2006, S/L/T agencies should develop a program to identify, prioritize, and reduce near-source impacts from stationary sources.
- Phase two. Using EPA-approved health-based guidelines or S/L/T functionally equivalent health based guidelines, by 2010, S/L/T agencies should achieve significant reductions in cancer risk and non-cancer health impacts near major and area sources of HAP emissions in urban and rural areas. (Some limitations may exist with respect to health values used for assessment because these guidelines may not be available for each HAP.)

The workgroup identified several options for identifying where to apply near-source goals and how to structure them:

- Potential high risk facilities conduct screening and/or refined facility-specific risk assessments, as appropriate (California's AB 2588 Hot Spots Program)
- Require all major and selected area sources to develop MACT level of control (Louisiana approach)
- Require facilities with significant risk (cancer and non-cancer) to reduce risks below a defined level of significance (New York approach, California's AB 2588 Hot Spots Program)
- Require new and modified facilities to install T-BACT (Vermont approach, California's Toxic New Source Review Program)
- To quantify risk reduction, evaluate risks prior to and after risk reduction measures

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<sup>26</sup>The near-source impacts may be from sources already regulated by MACT or S/L standards. The source may already be using lowest achievable emission reduction (LAER), but the combination of the emissions from the source and the nearness of receptors may still result in a risk level of concern.

- Conduct air monitoring at the source prior to and after risk reduction measures, where appropriate<sup>27</sup>

### **3.1.4 Community/Neighborhood Goals**

The purpose of community/neighborhood goals are to address remaining pockets of disproportionate risk remaining after imposition of the national, area-wide, and near-source goals. This phase of the program will address both urban area and rural hot spots. Community/neighborhood goals will be based on risk from all sources and will address all HAPs and other S/L/T priority HAPs of concern. They will also address cancer and non-cancer risks.

Community/neighborhood goals will be the focal point for addressing EJ perspectives or issues. Issues such as how to define the “community,” how to train and educate stakeholders, and how to effectively obtain and use their input are all particularly important in this phase of the program. See section 2.2.7 of this report for more information on how to maximize stakeholder involvement and the need for integrated public participation in the overall process. Another resource available to S/L/T agencies in structuring a community-based program is EPA’s “Framework for Community-Based Environmental Protection”, which can be found at <http://www.epa.gov/cbep/>.

The community/neighborhood goals will be developed in four steps. The timelines summarized below and in table 2.6 reflect the significant time and effort for S/L/T agencies to develop the expertise and tools (with EPA’s help) to develop and address these goals. The steps also provide the communities with flexibility to set goals that address community concerns.

- Step 1. In the 2003 - 2005 timeframe, complete Step 1, Assessment, by developing tools to conduct cumulative risk assessments.
- Step 2. In the 2003 - 2008 timeframe, complete Step 2, Program Development, by identifying priority HAPs and HAP sources/source categories and developing a plan to reduce cumulative risk.
- Step 3. In the 2005 - 2012 timeframe, complete Step 3, Program Implementation, by implementing a program plan to reduce cumulative exposures, reduce risks, and meet community/neighborhood goals.
- Step 4. By 2012 - 2020, complete Step 4, Audit/Backstop, by performing an evaluation to determine if the goals/plan have/has been met and performing further action if necessary. The S/L/T agencies also should achieve substantial reduction in cumulative risk in specific

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<sup>27</sup>Some of the members on the workgroup feel that this monitoring should be required.

neighborhoods. Finally, the S/L/T agencies should measure reduction in cumulative risk in specific neighborhoods both prior to and after taking into account risk reduction measures.<sup>28</sup>

## **3.2 Step 1: Assessment**

### **3.2.1 Purpose of Assessment Step**

The purpose of the assessment step is to evaluate existing emissions data and/or estimate public health risk from exposure to the emissions and use these results to prioritize program activities to reduce risk. Overall, assessments can include four activities:

- Estimating emissions
- Estimating concentrations
- Estimating exposures
- Risk characterization

For the program recommended in this report, S/L/T agencies may wish to prioritize program activities based solely on emissions inventory data rather than a risk assessment activity. The assessments for this program could include identification of cancer risks, chronic health risks, and acute risks to public health. The identification of public health risk may include risks to adults, children, infants, and pregnant women. In order to prioritize these risks, criteria may be developed in the program development stage, which may vary from agency to agency.

Not all assessments are the same. An assessment may be a screening level analyses that compares predicted or measured ambient concentrations to health-based values. In some cases, a more refined analyses may be preferred to a screening level analysis. The types of analyses S/L/T agencies perform may be dictated to some degree by the geographic extent of the area of concern. The geographic extent of the areas of concern are reflected in the scope of the goals: nationwide, areawide, near-source and community/neighborhood.

The workgroup notes that both EPA and several S/L/T agencies currently have programs that are gathering and assessing information required to characterize exposure and estimate public health risks from exposure to air toxics. Information derived from the experience of these programs can be found in Appendices B, D and E. This information may be helpful for S/L/T agencies starting risk-based air toxics programs, as well as agencies with more mature programs. Appendix D and the Attachment to Appendix E provide information on EPA activities related to assessment. Appendix B

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<sup>28</sup>Some of the members on the workgroup feel that the phrase “substantial reduction” is too vague and needs to be defined and that the 2012 - 2020 timeframe is too far in the future for community/neighborhood goals to be met.

provides information on State and local programs. Appendix E provides a resource list of materials for performing air toxics assessments.

### ***3.2.2 Minimum Program Elements and Program Options***

The assessment step of the program includes several activities, which vary by goal. There are many program options available for completing these activities, and the way in which these activities are conducted is not prescribed here. However, each program must include, at a minimum, certain program elements. Following is a discussion of the minimum program elements, by goal category.

#### S/L/T Program, Area-wide Risk Goals

For the S/L/T agency, there are four minimum elements:

- Compile emission inventory, modeling or monitoring data, or combination
- Evaluate the cancer risk and non-cancer health impacts from, at a minimum, each HAP on EPA's list of 33 HAPs or on S/L/T functionally equivalent list
- Stakeholder and public participation process
- Develop process for identifying communities disproportionately impacted by air toxics emissions

*Compile emission inventory, modeling or monitoring data or combination.* The S/L/T agencies will need to gather or produce information in order to perform an assessment of air toxics risk. The activities can include producing an emission inventory, performing modeling, or conducting air quality monitoring, or using a combination. (Resources will need to be made available to S/L/T agencies to carry out these activities, as discussed in the critical issues section of this document.)

The emissions inventory should be compiled for air toxics from outdoor sources, and may include major stationary sources, area stationary sources, other sources such as residential combustion and outdoor burning, on-road mobile sources, and off-road mobile sources. The emissions inventory could be the NTI or a more refined inventory developed by the S/L/T. The inventory needs to fill in the gaps that currently exist. Therefore, S/L/T agencies need to collect information on small, area sources (stationary and otherwise) that are not captured by inventories, such as the NTI, either due to reporting thresholds or existing mandates. This inventory may include all or a select set of the 188 HAPs in the CAA or other S/L/T priority non-HAPs. The S/L/T agencies should be given flexibility to determine whether additional sources should be included in inventories (e.g., indoor sources, consumer products, or other human activities).

If the S/L/T has collected sufficient monitoring data to characterize ambient air toxics concentrations, monitoring data may be used in lieu of developing an extensive emission inventory. If

the S/L/T wants to characterize air toxics concentrations but lacks sufficient monitoring data, the S/L/T may wish to perform air quality modeling.

*Evaluate the cancer risk and non-cancer health impacts from, at a minimum, each HAP on EPA's list of 33 HAPs<sup>29</sup> or on S/L/T functionally equivalent list.* Using EPA health-based guidelines or S/L/T functionally equivalent guidelines, assess the ambient potential cancer risks and non-cancer health impacts throughout the State or region from, at a minimum, each HAP on EPA's list of 33 HAPs or on S/L/T functionally equivalent list (where health values are not available for a given HAP, the S/L/T may not be able to quantify potential cancer risk and/or non-cancer health impacts for that respective HAP). This assessment can be completed using emission inventory data, ambient monitoring data and/or modeling data depending on the area of concern or goal. For example, S/L/T agencies may use a potency-weighted emission inventory or they may default to EPA's characterization of risk to assess statewide concerns (EPA will characterize risks from 33 HAPs of concern using the NATA methodology). Synergistic and combined effects maybe considered as well.

*Stakeholder and public participation process.* In section 2.2.7, the workgroup highlighted concerns with respect to stakeholder involvement and how it should be conducted. For the assessment step, EPA and S/L/T agencies should develop a meaningful stakeholder and public participation process along the lines discussed in that section. The EPA and S/L/T agencies should also seek ways to provide incentives to encourage disadvantaged stakeholders to participate in the process.

*Develop process for identifying communities disproportionately impacted by air toxics emissions.* The workgroup agrees it is important to develop the process early for identifying communities disproportionately impacted by air toxics emissions, especially low income and people-of-color communities, to ensure the needs and issues of EJ communities are considered from the beginning of the program. Therefore, the workgroup listed this process as a minimum element in the assessment step.

#### S/L/T Program, Near-Source Risk Goals

The minimum elements for these goals are similar to those necessary for performing an assessment of the area-wide risk goals. A process for identifying sources of concern needs to be developed. Updates on health-based values may be needed as well. Moreover, for evaluating near-source risks or cumulative risks, a more accurate emission inventory specific to the area of impact or ambient monitoring data may be needed. A more refined modeling analysis or ambient monitoring may also be needed to assess near-source or community risk. As for the area-wide goals, developing and implementing a meaningful stakeholder and public participation process and involving the community are

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<sup>29</sup>The workgroup recommends that S/L/T agencies focus, at a minimum, on the 33 pollutants or a functionally equivalent list. However, in the NATA EPA plans to address the 188 air toxic pollutants listed in the CAA.

essential. Finally, the S/L/T agencies will need to identify communities disproportionately impacted by air toxics emissions.

### S/L/T Program, Community/Neighborhood Goals

Developing and implementing a meaningful stakeholder and public participation process is especially critical in determining the scope and nature of community risks. However, there may be little information on how to successfully address community risks. Therefore, the workgroup has not identified any firm set of minimum elements, but recommends that, at this time, S/L/T agencies have the flexibility to use available tools and guidance or develop their own techniques for assessing community risk. As the air toxics community gains more knowledge about community risk, more specific minimum elements can be specified. For example, in certain situations, collecting health data and data on cancer rates in areas being assessed may be helpful in determining if there may be an air toxics problem.

However, the workgroup did identify four elements that could be considered as part of the assessment process for community/neighborhood goals:

- Stakeholder public participation process
- Identify communities disproportionately impacted by air toxics emissions
- Assemble EJ stakeholder advisory committee
- Other elements to be determined

For the stakeholder advisory committee element, S/L/T might assemble university and public health experts, EJ and other environmental groups for working roundtable discussions about addressing air toxics exposures and vulnerable populations in the S/L/T area.

### EPA National Program, National Goals

For the national program, there are five minimum elements:

- Compile national air toxics emissions inventory (NTI)
- Establish or update health-based values
- Characterize risks from 188 HAPs of concern and sources responsible through the NATA methodology
- Stakeholder process
- Develop process for identifying communities disproportionately impacted by air toxics emissions

(Appendix D contains additional descriptions of EPA activities that relate to these minimum program elements and option activities.)

The program options are discussed below in the context of these minimum elements.

*Compile NTI.* Over the past several years, EPA has been compiling information to support the development of national inventories of air toxics emissions. To date, EPA has compiled a NTI data set for the 1990 to 1993 period (called the baseline NTI) and 1996. The NTI provides estimates of emissions at the county level of resolution (or better, in many cases) which allows the 1996 NTI to be used to develop screening-level modeling assessments of ambient concentrations and inhalation exposures down to county-level resolution. As such, the 1996 NTI represents the most recently-verified and complete emissions inventory available for national assessments.<sup>30</sup>

The NTI contains air toxic emission estimates for four overarching categories (or "sectors") of man-made outdoor emissions sources: major, area, onroad mobile and nonroad mobile source categories.

The EPA has compiled the 1996 NTI using five primary sources of data:

- State and local toxic air pollutant inventories (developed by State and local air pollution control agencies)
- Existing databases related to EPA's air toxics regulatory program
- EPA's Toxic Release Inventory (TRI) database
- Estimates developed using mobile source methodology (developed by EPA's Office of Transportation and Air Quality)
- Emission estimates generated from emission factors and activity data

The EPA plans to continue these types of inventory efforts to compile a complete national inventory every 3 years. The next efforts, which will focus on 1999 data, are already underway through discussions between EPA staff and State and local air pollution control agencies.

*Establish or update health-based values.* An important component of an assessment is to have health-based values available to evaluate cancer and non-cancer risk. It is critical to establish dose-response relationships to characterize the relationship between exposure to a pollutant (the dose) and an estimate of the potential for adverse health effects in exposed populations. This may be done by estimating the incidence of effects, including cancer, chronic, and/or acute endpoints, as a function of exposure to the pollutant. Some appropriate health-based values may have already been developed, but additional or updated ones are needed. The Integrated Risk Information System (IRIS), prepared and maintained by EPA, is an electronic data base containing information on human health effects that

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<sup>30</sup>Some workgroup members noted that the NTI is a work in progress and there are State by State inconsistencies in the quality of the air toxics inventories provided to the EPA and used in the NATA project.

may result from exposure to various chemicals in the environment.

*Characterize risks from 188 HAPs of concern and sources responsible through the NATA methodology.* The EPA's major effort to characterize risk and monitor progress associated with HAP emission reduction has been through the undertakings of the NATA. The NATA consists of four building blocks:

- Emission inventories
- Air dispersion modeling
- Inhalation exposure modeling
- Risk assessment/characterization

Under NATA, EPA is currently engaged in the 1996 assessment, which includes characterizing the risk from 33 priority HAPs. (In the NATA, EPA plans to expand the analysis and address the 188 air toxic pollutants listed in the CAA.) In addition, EPA will be engaged in other assessment activities such as air quality monitoring, air deposition modeling, and evaluating air toxics on a more local scale.

*Stakeholder process.* As part of the NATA, EPA has conducted (and will continue to conduct) significant outreach in its effort to characterize national air toxics risks and monitor progress toward reducing air toxics nationally (see Appendix D and the attachment to Appendix E). For example, using a group of diverse stakeholders, EPA has developed a national monitoring strategy (Air Toxics Monitoring Concept Paper). The strategy calls for incremental changes to existing monitoring networks, guided by data analysis and model predictions, to improve the collection of ambient data for future model evaluations. In addition, as part of the NATA activities, EPA is now conducting an initial assessment to characterize air toxics risks nationwide. Stakeholders have been involved in several aspects of the assessment for 1996 and will be involved in future assessments as well.

*Develop process for identifying communities disproportionately impacted by air toxics emissions.* The workgroup agrees it is important to develop the process early for identifying communities disproportionately impacted by air toxics emissions, especially low income and people-of-color communities, to ensure the needs and issues of EJ communities are considered from the beginning of the program. Therefore, the workgroup listed this process as a minimum element in the assessment step.

### **3.2.3 Assessment Issues**

*Areas without an air toxics problem.* Some S/L/T agencies may not believe air toxics pose a risk to public health or the environment in their area and may not wish to implement this complete program. While in some cases implementation of the full program may not be necessary, completion of a full assessment is essential to ensure that an unacceptable level of risk from air toxics truly does not

exist. In instances in which the S/L/T suspects there is no risk to public health or the environment from air toxics, the assessment should focus on urban areas.

This assessment must include stakeholder involvement and a period for public comment on the results. If a complete assessment confirms that air toxics exposure does not pose unacceptable human health risks, then performing the other steps of this program may be suspended if the stakeholders and the public support this action. In these instances, the S/L/T must perform the full assessment periodically, such as every five years, to confirm that the conditions have not changed to necessitate implementation of the other program steps.

*Flexibility.* Flexibility to meet the minimum elements through activities the S/L/T chooses is an important concept for this program and the assessment step. For example, some S/L/T agencies may choose to use an emissions inventory, whereas other S/L/T agencies may use monitoring data to conduct an assessment. The flexibility to use these and other approaches to complete the requirements of the assessment step is integral to the program structure.

#### **3.2.4 Sources of Assessment Data**

Through several programs, EPA has collected air toxics data and other information which may be helpful to S/L/T agencies in completing the assessment activities and in developing their programs. Appendix D of this document includes a description of EPA activities and a brief discussion of how each activity relates to Step 1. The activities covered in Appendix D are:

- NATA
- Proposed Consolidated Emissions Reporting Rule
- Aerometric Information Retrieval System
- EPA's Clearinghouse for Inventories and Emissions Factors (see <http://www.epa.gov/ttn/chief/>)
- TRI
- IRIS
- Risk Assessment Guidelines
- Residual Risk Determinations
- Resource Conservation and Recovery Act/Comprehensive Environmental Response, Construction, and Liability Act data
- Toxic Substances Control Act (TSCA) data

In addition, Appendix E of this document provides a list of assessment-related resources that should help S/L/T agencies in the development of their assessment activities and includes an attachment which provides a schedule of EPA's NATA activities.

### **3.3 Step 2: Program Development**

### ***3.3.1 Purpose of Program Development Step***

The workgroup envisions a strong national air toxics program which addresses national air toxics goals by continuing to address issues that are national in scope, such as mobile sources, certain stationary source categories, and energy-related issues. In addition to program development at the national program, S/L/T agencies need to develop programs to reduce risk from exposure to air toxics to meet area-wide, near-source and community/neighborhood program goals.

### ***3.3.2 Minimum Program Elements and Program Options***

The program development step of the program includes several activities, which vary by goal category. There are many options available to implement these activities, and the workgroup is not prescribing the manner in which these activities should be performed. However, the program must, at a minimum, include the following elements:

#### S/L/T Program, Area-wide Goals

For the S/L/T program, there are five minimum elements:

- Identify priority HAPs and source categories
- Develop stakeholder process for setting reduction priorities
- Develop options to reduce emissions
- Provide opportunity for public review and comments
- Develop options to measure progress.

The program options are discussed below in the context of these minimum elements.

*Identify priority HAPs and source categories.* For S/L/T programs, S/L/T agencies will use the information collected in the assessment phase to identify the HAPs that will be targeted in the program and prioritize the HAPs whose emissions reductions will result in the greatest reduction in risk. The S/L/T agencies will also identify and prioritize sources that are contributing to HAPs of concern that are not addressed by the national program, giving consideration to the degree of exposure. This may include major stationary sources, area (non-major) stationary sources, other sources (such as residential combustion, outdoor burning), on-road mobile sources, and off-road mobile sources that contribute to areawide risk or a stationary source that may result in a near-source impact. (Some of the members on the workgroup feel strongly that S/L/T agencies need to emphasize identification of area sources to ensure they are being adequately addressed.)

The workgroup believes that indoor air issues may be considered in this step in cases where the S/L/T feels that they are relevant to specific concerns in their area and where the S/L/T has appropriate jurisdiction.

*Develop stakeholder process for setting reduction priorities.* The public should be involved in the program development step. The S/L/T agencies should develop a stakeholder process for setting reduction priorities. (However, as noted in the assessment step, it is important to get public and private support prior to program development.) The program should include a public outreach strategy that addresses how to conduct outreach, how to identify key stakeholders, and how to train and involve stakeholders in technical issues associated with the risk characterization. (Examples of existing public involvement are found in Appendix H of this report.)

In designing a public participation process, priority should be on local and community stakeholder involvement. Resources should also be provided to support stakeholder involvement. For example, resources are needed to assist people in attending accessible meetings held at convenient times because fostering a good working relationship with the public is an important part of program development. Resources are also needed to include funding to hire technical expertise to advise the public on air toxics issues. The S/L/T agencies may need to conduct public meetings to identify priorities within the affected community and to educate the public about the potential risks identified. The stakeholder process should be instituted in conjunction across relevant agencies, including public health agencies. Stakeholder processes should include a permanent body such as a State and/or regional advisory board with “local” input and balanced representation to oversee programs.

*Develop options to reduce emissions.* For S/L/T programs, approaches for setting priorities should include many of the following:

- **Emissions-based:** In a strictly emissions-based prioritization process, top priority would be given based on amount of emissions from inventory data. Other factors, such as impacted population, may also be considered.
- **Emission-based, with pollutants weighted for toxicity (the same concept as lesser quantity cut-offs):** Weighting for toxicity would mean that pollutants are prioritized based on amount of emissions AND the relative toxicity of the pollutant. For example, “A” carcinogens may be weighted higher than “C” carcinogens. Another example of potency weighing is to multiply emissions by its respective unit risk factor.
- **Monitoring-based:** Air quality monitoring data can be used to set priorities.
- **Risk-based (e.g., California’s “Hot Spots” program):** In this case, screening level risk assessments would be performed to prioritize risks, pollutants, and/or sources/source categories. Screening level assessments would be performed by the source, EPA or the S/L/T.
- **Market-based:** Prioritizing based on markets could involve determining incentives for various sectors. Depending on the program, priority may be given to areas where reductions in emissions or risk is most easily achieved.
- **Indicators-based:** Based on the overall state of the environment in a region, priority would be given to the environmental indicators. For example, a State may determine that its highest priority is achieving the total maximum daily load (TMDL) for mercury. Therefore, it may target mercury emissions reductions from all sources.

*Provide opportunity for public review and comments.* In addition to the stakeholder process described above, S/L/T agencies must also ensure that they solicit and consider public comments on the program as it is being developed. This includes providing adequate notice of review opportunities, making review materials readily accessible, providing forums for public discussion, and carefully listening to public concerns and integrating them into the final program.

*Develop options to measure progress.* The S/L/T agencies need to establish a process to periodically monitor the progress that is being made toward the goals. This process will also serve to fulfill part of the goals assessment process that is discussed more in Step 4.

#### S/L/T Program, Near-Source Risk Goals

For the near-source risk goals, the minimum elements are the same as the elements for the S/L/T area-wide goals, except that the description of the first minimum element is different for near-source programs:

*Identify priority HAPs and sources of near-source risk.* For the near-source risk goals, S/L/T agencies will need to develop procedures for evaluating and prioritizing near-source risk to determine which stationary sources need to be targeted for emission reductions.

#### S/L/T Program, Community/Neighborhood Goals

For the community/neighborhood goals, the workgroup recommends that the minimum elements be developed in the future as more is learned about how to measure and address community/neighborhood risk. However, some of the workgroup members emphasize that the community/neighborhood goals should be a priority. For example, in some cases targeting at-risk communities for immediate action may be the most cost-effective strategy for reducing air toxics and achieving significant risk reductions. However, some workgroup members are concerned that an approach that first focuses on specific neighborhoods could result in resources being pulled away from developing the area-wide and near-source programs.

#### National Program, National Goals

For the national program there are five minimum elements:

- Identify priority HAPs and sources
- Develop stakeholder process for setting priorities
- Develop options to reduce emissions
- Provide opportunity for public review and comments
- Develop options to measure progress

*Identify priority HAPs and sources.* For the national program, on July 19, 1999, EPA published a Federal Register notice describing the National Air Toxics Program and the Integrated Urban Air Toxics Strategy (64 FR 38706). Among other things, the Strategy includes a list of 33 priority HAPs judged to pose the greatest potential threat to public health in the largest number of urban areas, including 30 HAPs specifically identified as being emitted from smaller industrial sources known as “area” sources and a list of area source categories which emit a substantial portion of these HAPs, and which are being considered for regulation. In addition, EPA will use the information collected in the assessment phase to determine sources that contribute most to national risks and develop options to reduce emissions that include regulatory and non-regulatory approaches and incentives.

*Develop stakeholder process for setting priorities.* The EPA has utilized stakeholder processes in some cases to aid in setting program priorities and in developing programs. For example, this workgroup has spent 6 months discussing how to structure the risk-based phase of the national air toxics program. The EPA should expand its efforts in this area.

*Develop options to reduce emissions.* Under the CAA, EPA is required and/or authorized to issue a wide array of national standards to reduce air toxics emissions. These standards are described in Appendix I of this report. In addition, the workgroup identified EPA’s responsibility for issuing national standards as a critical issue in section 2.2 above. The workgroup also emphasizes the importance that any new standards should be performance-based standards and promote pollution prevention and process-based change rather than standards requiring “end-of-the-pipe” emission controls. The EPA should also work with S/L/T agencies to determine what reductions are needed from sources under Federal control.

*Provide opportunities for public review and comments.* In its program development activities EPA has provided numerous opportunities for the public to review and comment on EPA’s rulemakings and program policies.

*Develop options to measure progress.* The EPA will use the results from the national assessments conducted under NATA as the primary mechanism to assess national progress towards meeting the CAA goals described in section 3.1.1 of this report. The EPA is currently completing the assessment for 1996 and is beginning the process for performing the 1999 assessment, which is estimated to be completed in 2 to 3 years.

### **3.3.3 Program Development Issues**

*Alternatives to S/L/T developing its own program.* If a S/L/T decides not to develop its own program, several other options are available for program implementation. The S/L/T may take delegation of the program developed by EPA, in which it would become the agency responsible for implementing the full program and meeting the goals defined by EPA. Alternatively, if the S/L/T is

unable or unwilling to take complete delegation of a program developed by EPA, then the S/L/T could form a partnership with EPA. In this situation, the enforcement and implementation responsibilities would be split between the two agencies. If a S/L/T is unable or unwilling to perform any activities associated with this program, EPA would take full responsibility to implement and enforce the program in place of the S/L/T. In each of these cases, EPA would perform the entire program development step.

*Multi-State urban areas.* Multi-State urban areas and other entities that cross jurisdictional boundaries will face special issues, because areas may contribute to each other's problems. In the past, these areas may have not worked well together. In these cases, existing organizations (e.g., the Western Regional Air Partnership, Northeast States for Coordinated Air Use Management) can help with planning and coordination. These areas may also need to consider establishing new relationships through memoranda of understanding (MOU) and other mechanisms. Additional discussion will need to occur among S/L/T agencies to find ways to work more effectively across political boundaries.

### **3.4 Step 3: Program Implementation**

#### ***3.4.1 Purpose of Program Implementation Step***

The implementation step of the program involves the performance of the activities specified in Step 2, Program Development.

#### ***3.4.2 Minimum Program Elements and Program Options***

Since the programs developed in Step 2 are variable, the activities conducted in Step 3 will also vary. Depending on the type of program chosen (e.g., S/L/T - EPA partnership, S/L/T plan, etc.), the agency actually conducting the activities specified in the program developed in Step 2 will also vary. However, there are common elements to the implementation step that must, at a minimum, be carried out.

#### S/L/T Program, Area-wide Goals

For S/L/T programs, there are five minimum elements:

- Schedule for activities to meet goals
- Public participation process
- Adequate resources and authority
- Ways to measure progress
- Process for amending plan

*Schedule for activities to meet goals.* The S/L/T agencies should include specific deadlines for achieving major milestones for the areawide risk goals.

*Public participation process.* Extensive public participation is important in all of the minimum elements listed here for the program implementation phase of the program (see writeup above under section 3.3, Step 3).

*Adequate resources and authority.* The EPA must have adequate resources to implement the national air toxics program. In addition, the S/L/T must have adequate resources to implement the parts of the program that they agree to take on. Possible sources of funding for S/L/T air toxic risk reduction programs include:

- **Industry-based:** Programs should provide industry clear goals, a timeframe for goal achievement, and indication of consequences of not meeting goals, then allow industry to innovate and achieve the goals with their own resources.
- **Performance partnerships:** Partnerships should be established between industry and EPA to provide EPA-based funding. The EPA should allocate funds from its budget to put toward this program, distributing it among S/L/T agencies.
- **EPA-S/L/T-based:** The S/L/T agencies and EPA should both allocate resources toward this program (e.g., EPA matches S/L/T funds).

In addition to resources, before developing and implementing a program, implementing agencies must have a good understanding of the existing authority under the CAA and State statutes.

*Ways to measure progress.* Based on public input obtained on options determined during program development, the S/L/T must specify ways to measure progress towards achieving goals. One option is to engage stakeholder participation to implement and track risk reduction program by State and Federal air quality and public health agencies, environmental advocacy groups, regulated industry, trade associations, academia, and interested citizens (see discussion in Step 4).

*Process for amending plan.* The workgroup recognizes that there are unexpected circumstances that may require changes in S/L/T plans. The S/L/T plans must include a process for amending plans which includes public stakeholder input.

### S/L/T Program, Near-Source Risk Goals

For the near-source risk goals, the minimum elements are the same as the elements for the S/L/T areawide goals, with one exception. Deadlines must be included for when procedures should be in place to address near-source risk goals; specific deadlines for achieving near-source goals may not be practical.

### S/L/T Program, Community/Neighborhood Goals

For the community/neighborhood goals, the workgroup recommends that the minimum elements be developed in the future as more is learned about how to measure and address community/neighborhood risk.

### National Program, National Goals

For the national program, there are five minimum elements:

- Schedule that meets goal deadlines
- Public participation process
- Adequate resources and authority
- Ways to measure progress
- Process for amending plan

*Schedule that meets goal deadlines.* The EPA has established a schedule for when to complete certain activities to carry out the national air toxics program. Some of the dates are specifically mandated by the CAA, while other dates are EPA's estimates of when activities will occur. The attached Action Plan from EPA provides a detailed schedule for the Agency's activities (see Appendix F).

*Public participation process.* During program implementation, S/L/T agencies are more likely to interact directly with the public on questions and issues than EPA. During this phase, EPA needs to continue to provide the public with program information and assessment results so that the public can monitor program progress toward meeting the national goals outlined above in section 3.1.

*Adequate resources and authority.* The EPA needs to ensure that it has adequate resources and authority to carry out the program recommended in this report. The workgroup has identified adequate resources and authority as critical issues in section 2.2 above.

*Ways to measure progress.* The EPA will use the results from the national assessments conducted under NATA as the primary mechanism to assess national progress towards meeting the CAA goals described in section 3.1.1 of this report. The EPA is currently completing the assessment

for 1996 and is beginning the process for performing the 1999 assessment, which is estimated to be completed in 2 to 3 years.

*Process for amending plan.* As EPA and the S/L/T agencies implement their programs, develop improved tools to measure progress, and achieve results, the original program plan will most likely need refining. Therefore, as part of the program implementation step, EPA needs to develop a process for amending its national air toxics strategy. The process should include public stakeholder input.

### **3.5 Step 4: Audit and Backstop Process**

#### **3.5.1 Purpose of the Audit and Backstop Process**

The purpose Step 4 is to put in place a process to monitor progress toward goals to ensure that corrective action is taken if adequate progress is not achieved.

#### **3.5.2 Minimum Program Elements and Program Options**

As in the other steps, minimum program elements vary by goal and according to the agency carrying out the program.

#### **S/L/T Program, Area-wide and Near-Source Risk Goals**

The minimum elements consists of three components:

- Periodic audit process
- Backstop
- Public participation

*Periodic Audit Process.* The audit process contains two distinct types of evaluations. One evaluation is necessary to determine whether S/L/T agencies are completing tasks in a timely manner according to the S/L/T plan, and another evaluation is necessary to determine whether the plan's goals have been met.

The first type of evaluation is intended to ensure that the activities that should have been conducted were performed in the appropriate manner and timeframe. This audit process should be periodic, with an audit performed after each step of the process. This evaluation should be conducted as a joint effort by the S/L/T and EPA and may take the form of progress reports made available to the public for comment. These progress reports could be completed jointly by the S/L/T and EPA, or independent progress reports could be submitted by each agency. In either case, by having periodic progress reports, S/L/T agencies will be aware of areas where sufficient progress has been made

according to the plan and areas that need attention. In addition, having an audit process will ensure continual progress and attention to the program. By making progress reports public, the agency will also be held publicly accountable to perform the actions laid out in the plan and make progress toward the goals. To create greater public awareness, a stakeholder advisory committee could also be convened to provide comments and to suggest areas for further investigation.

In addition to the more periodic progress reports, the workgroup envisions having a full audit of the program performed as a joint effort between the S/L/T and EPA at the completion of the process. This full audit would involve an analysis of the progress made toward the goals. The audit would be completed either after all four program steps had been completed or after 10 years since the onset of the program, beginning with the assessment step. The results of this full audit would be made public, and would allow for a public comment period on the program. When the goals are attained, or if sufficient progress is made toward the goals, the audit would also suggest future actions and activities to continue this progress. If the results of the audit show other actions are needed to make sufficient progress toward the goals, a backstop would be implemented. The general full audit process is outlined below.

- In the 2010-2012 timeframe, each S/L/T shall audit and prepare a report on its air toxics program.
- There shall be a comment period on the draft report with appropriate public hearings/meetings throughout the S/L/T area.
- This process shall be repeated in 2020 and every 10 years thereafter.

The results of this audit should be compiled into a report for the S/L/T and the public to view. This report should include at a minimum:

- An assessment as to whether the S/L/T goals have been achieved or are on track to be achieved
- For each goal, a report on the implementation of the program elements including the identification of any problems and/or need for additional resources
- Recommendations to address identified problems
- Recommendations for altering the goals and/or program

*Backstop.* The workgroup also envisions EPA implementing a backstop if significant progress toward the goals has not been achieved. This backstop is intended to provide a means of making progress toward or achieving the goals where implementation of other measures was not successful. It is also envisioned that the backstop will also provide an incentive for S/L/T agencies to perform well and achieve the goals in order to avoid the backstop measures.

There are two types of situations in which a backstop would be necessary:

- Lack of progress toward completing plan tasks
- Lack of progress toward meeting the plan goals

The workgroup did not fully address the contents of the backstop measures. However, they believe the community should be involved in developing the backstop measures.

*Public participation.* The workgroup believes that the stakeholders and public should be involved in the audit and backstop process. Mechanisms for public participation include the following:

- Public notification
- Publish data
- Public meetings
- Community-based research
- Public comment

#### S/L/T Program, Community/Neighborhood Goals

The workgroup recommends the same three minimum elements for the community/neighborhood goals as for the other goals (periodic audit process, backstop, and public participation.) However, the workgroup recommends that the options to implement these minimum elements be developed in the future as more is learned about how to measure and address community/neighborhood risk.

#### EPA National Program, National Goals

For the national program, the workgroup recommends three minimum elements:

- Periodic audit process
- Backstop
- Public participation

*Periodic audit process.* The EPA will measure progress toward the national goals every three years as it performs the national assessments as part of the NATA Program, which is described in more detail in Appendix D and the attachment to Appendix E. The EPA is currently completing the 1996 assessment. In 2000 EPA will be comparing air toxics inventories from 1990 and 1996 on a toxicity-weighted basis to help determine progress toward meeting the risk reduction goals. The EPA is starting the 1999 assessment, which is projected to be completed in the 2002/2003 timeframe.

*Backstop.* The workgroup did not have a full discussion about the form or content of a backstop for the national program. However, the workgroup believes that EPA has many important responsibilities as indicated in section 3.1.1 and should make a strong commitment to adjust its activities

in accordance with the results of the EPA audit process. In addition, stakeholders and the public should be kept abreast of the progress and any new or amended activities planned for the national program.

*Public participation.* The workgroup believes that the stakeholders and public should be involved in the audit and backstop process. Mechanisms for public participation include:

- Public notification
- Publish data
- Public meetings
- Community-based research
- Public comment