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Environmental Protection Agency

Draft Integrated Urban Air Toxics Strategy To Comply With Section 112(d), 112(c)(3) and Section 202(l) of the Clean Air Act; Notice

ENVIRONMENTAL PROTECTION AGENCY

[FRL–6157–2; Docket No. A–97–44]

Draft Integrated Urban Air Toxics Strategy To Comply With Section 112(k), 112(c)(3) and section 202(l) of the Clean Air Act

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice provides a draft strategy for public comment to address health impacts from air toxics in urban areas. The strategy includes a draft list of 33 hazardous air pollutants (HAP) judged to pose the greatest potential threat to public health in the largest number of urban areas, based on available information. Thirty of these HAP are from area sources. It also provides a draft list of area source categories to be listed for regulation under section 112(d) of the Clean Air Act (Act). The draft strategy also provides a schedule for specific actions to address risk from air toxics in urban locations. This draft strategy is being developed as required in section 112(k) and 112(c)(3) and section 202(l) of the Act, as amended in 1990, and a consent decree entered in *Sierra Club* v. *Browner*, Civ. No. 95–1747 (D.D.C. 1995) (consolidated with *Sierra Club* v. *Browner*, Civ. No. 96–436 (D.D.C. 1996)). Even though the draft strategy identifies source categories for which additional standards under section 112(d) may be developed, the strategy by itself does not automatically result in regulation or control of emissions from sources within these source categories. The EPA will perform further analyses of HAP emissions, control methods for the listed source categories, and health impacts as appropriate, for stationary and mobile sources. These analyses will determine the ultimate regulatory requirements, if any, which may be developed under the strategy.

DATES: A draft and final strategy, including HAP and source category lists, are required under the consent decree to be completed and made available by August 31, 1998 and June 18, 1999, respectively. Written comments on this draft must be received by November 30, 1998. We will hold four stake-holder meetings on this draft. The first will be at Radisson Plaza Hotel at Mark Center, 5000 Seminary Road, in Alexandria, VA on September 23, 1998. The second at the Durham Marriott at the Civic Center, 201 Foster Street, Durham, NC on September 29, 1998, the third, in Chicago, Illinois at Hyatt Regency Chicago, 151 East Wacker Drive, Chicago, IL 60601 on November 5 and 6, 1998, and the final at Cathedral Hill Hotel, 1101 Van Ness Avenue, in San Francisco, California 94109, on November 19, 1998. Persons wishing to present oral comments pertaining to this notice should contact EPA at the address listed below.

ADDRESSES: A docket containing information relating to the development of this notice (Docket No. A–97–44) is available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday except for Federal holidays, in the Air and Radiation Docket and Information Center (MC–6102), Room M–1500, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; telephone (202) 260–7548. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Laura McKelvey, Office of Air Quality Planning and Standards (MD–15), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711, telephone number (919) 541–5497, electronic mail address: McKelvey.Laura@epa.gov.

SUPPLEMENTARY INFORMATION:

Docket. The docket is an organized and complete file of all the information submitted to or otherwise considered by the Agency in the development of the Draft Urban Air Toxic Strategy. The principal purpose of this docket is to allow interested parties to identify and locate documents that serve as a record of the process engaged in by the Agency to publish today's notice. The docket is available for public inspection at the EPA's Air and Radiation Docket and Information Center, which is listed in the **ADDRESSES** section of this notice.

In compliance with President Clinton's June 1, 1998 Executive Memorandum on Plain Language in government writing, this package is written using plain language. Thus, the use of ''we'' in this package refers to EPA. The use of ''you'' refers to the reader and may include industry, State and local agencies, environmental groups and other interested individuals.

The information in this notice is organized as follows:

I. Introduction
II. List of Pollutants, Effects and Sources
III. Plan for Area Sources (section 112(k))
IV. Near-term Actions to Implement the Strategy
V. Longer-term Plans and Activities to Implement the Strategy for all Sources of Air Toxics
VI. How EPA will Communicate with the Public on Progress in Meeting the Strategy's Goals
VII. Regulatory Requirements

I. Introduction

We have made considerable progress since the passage of the Clean Air Act Amendments of 1990 in improving air quality for all Americans by reducing air toxics [1] emissions through regulatory, voluntary and other programs. To date, we have focused mainly on substantially reducing emissions of toxic air pollutants entering the environment, primarily by setting standards for major industrial sources and mobile sources. These reductions are only part of the solution to protecting public health and the environment from toxic air pollutants. In addition to lowering overall emissions of these toxic pollutants, we need to develop focused strategies to combat problems of particular concern. As we continue to develop the national air toxics program, and planned research yields improved data on health risks, we envision making increased use of risk information in setting priorities and measuring progress.

As discussed in more detail in section II.B. current information shows that some of the greatest health risks affecting the most people are in urban areas. This **Federal Register** notice presents our draft strategy to address the problem of urban air toxics, considering major industrial sources, smaller ''area'' sources and mobile sources. The Act requires us to develop a strategy for reducing urban air toxics by focusing on area sources. However, these sources are not the only contributors to toxic air pollutants in urban areas and are not the only sources of concern to the public. Therefore, in addition to satisfying our statutory obligation to address the threats presented by emissions from area sources, we intend to devise a broad strategy for reducing risks posed by air toxics from all sources. Different types of sources emit the same pollutants; and especially in urban areas, there are many sources emitting multiple pollutants. As part of our overall plan to target risk reductions, our draft strategy addresses the problems of cumulative exposures from air toxics through an integrated approach that considers all sources.

In developing the urban strategy, we make use of the best available scientific information providing insight into health risks from hazardous air pollutants. Based on this information, we have suggested priorities for the urban air toxics program. Our aim is to achieve the greatest reductions in risk

[1] Our use of the terms ''air toxics'' or ''toxic air pollutants'' in this notice refers specifically to those pollutants which are listed under CAA section 112(b) as ''hazardous air pollutants'' or HAP.

for the largest number of Americans, in an expeditious manner. In addition, we intend to address cases in which specific groups of individuals, such as low-income communities and children, may be exposed to disproportionately higher risks. Available information in many cases is not sufficient to quantify health risks from air toxics; there are significant gaps and uncertainties. However, section 112 generally provides a framework requiring the Nation to (1) move ahead to reduce emissions through standards under section 112(d) or section 129, initially reducing health threats from urban air toxics, while (2) conducting further research to address uncertainties and improve information on risks under section 112(f), 112(k) and 112(m) in order to then act to address the remaining identified risk.

In this introduction, we present a brief overview of the air toxics problem, actions that we have taken to reduce emissions, and our overall strategy for dealing with urban air toxics. We view this draft strategy as a starting point. We welcome public comment and will meet with various stakeholders, including direct dialogues with community groups such as environmental justice communities, to develop this approach further before the final strategy is issued in June 1999.

A. What is the air toxics situation?

There are currently 188 HAP regulated under the Clean Air Act that have been associated with a wide variety of adverse health effects, including cancer, neurological effects, reproductive effects and developmental effects.[2] We estimate that approximately 4.4 million tons (or 8.8 billion pounds) of HAP were released in the United States in 1990, declining to 3.7 million tons in 1993 (Second Report to Congress on the Status of the Pollution Program under the Clean Air Act, October 1997). In total, we have issued 25 maximum achievable control technology (MACT) and two section 129 standards, achieving estimated emission reductions of approximately 1 million tons once these standards are fully implemented.

We categorize anthropogenic sources of air toxics into three broad types: (1) major stationary sources, which are sources that emit more that 10 tons per year of any one HAP or 25 tons per year of a combination of HAP, such as chemical plants, oil refineries, aerospace manufacturers and steel mills; (2) area sources, which are smaller sources of air toxics which emit less than 10 tons per year of any one HAP or less than 25 tons per year of a combination of HAP, such as drycleaners, solvent cleaning industries and secondary lead smelters; and (3) mobile sources, which include cars, trucks and off-road engines. According to 1993 data, on a national basis, 24 percent or about 890 thousand tons of air toxics were emitted by major sources, 34 percent or about 1.26 million tons, were emitted by area sources, and 42 percent, or about 1.55 million tons, came from mobile sources (see emissions inventory report in docket).

In urban areas, toxic air pollutants pose special threats because of the concentration of people and sources of emissions. While threats posed by some pollutants may be fairly common across the country, studies in a number of urban areas indicate that threats posed by others vary significantly from one urban area to the next. We are concerned that because minority and low income communities are often located close to urban industrial and commercial areas where ambient concentrations of HAP may be greater, their risks of exposure to HAP at levels above acceptable health bench marks may be disproportionately higher than for other segments of the population. Through this study, we intend to collect and evaluate additional information needed to determine the extent to which there may be disproportionate risks for these communities in urban areas.

In order to fully understand the air toxics problem, we must understand the level of the pollution to which people are exposed. In order to do this, we would like to know the concentrations of all HAP as measured by ambient air monitors. However, the monitoring data are scarce and limited. Consequently, we estimate pollution concentrations through the use of models, relying on emissions measurements or estimates.

B. What are we doing to address air toxics?

In amending the Act in 1990, Congress required us to establish national emission standards for stationary sources of air toxics and to study a number of air toxics problems to determine whether additional reductions are needed. These emission standards are known as maximum achievable control technology, or MACT standards, and generally available control technology, or GACT standards. We have promulgated standards for the first 47 of 174 source categories, which will reduce air toxics emissions by approximately 980,000 tons per year. Within the next 10 years, as we complete more MACT standards, the air toxics program is estimated to reduce emissions of toxic air pollutants by well over 1.5 million tons per year (Second Report to Congress on the Status of the Hazardous Air Pollutant Program Under the Clean Air Act, October 1997).

We have also established mobile source evaporative and exhaust emission standards, as well as fuel standards, which are greatly reducing the amount of air toxics coming from motor vehicles. Between 1995 and 2000, highway vehicle emissions of benzene, 1,3-butadiene, and directly emitted formaldehyde will be reduced by about 40,000 tons per year. Toxic emissions from non-road sources will also be reduced in this period. Calculations and analyses which will improve our ability to project the impact of planned mobile source standards are currently in progress.

Congress instructed us to develop a strategy for air toxics in urban areas, emphasizing actions to address the large number of smaller, area stationary sources. Section 112(k)(1) states:

> The Congress finds that emissions of hazardous air pollutants from area sources may individually, or in the aggregate, present significant risks to the public health in urban areas. Considering the large number of persons exposed and the risks of carcinogenic and other adverse health effects from hazardous air pollutants, ambient concentrations characteristic of large urban areas should be reduced to levels substantially below those currently experienced * * *.

In particular, section 112(c)(3) and 112(k) instruct us to:

- Develop a research program on air toxics, including research on the health effects of the urban HAP, monitoring and modeling improvements to better identify and address risk in urban areas;
- Identify at least 30 HAP from area sources in urban areas that present ''the greatest threat to public health;''
- Identify the area source categories or subcategories emitting the 30 HAP and assure that 90 percent or more of the aggregate emissions are subject to standards under subsection (d);
- Provide a schedule for activities to substantially reduce risks to public health (including a 75 percent reduction in cancer risk attributable to 1990 exposures to HAP emitted by all stationary sources) using all EPA and State/local authorities;
- Implement the strategy and achieve compliance with all requirements within 9 years of enactment;
- Encourage and support State/local programs in reducing risks within individual urban areas; and

[2] Section 112(b) of the Act lists 189 hazardous air pollutants (HAP). One of the HAP, caprolactam, was subsequently delisted.

• Provide a Report to Congress at intervals not later than 8 and 12 years after enactment, on actions taken to reduce the risks to the public health.

In addition, section 202(l) of the Act requires that we:

• Study the need for and feasibility of controlling emissions of toxic air pollutants associated with mobile sources; and

• Promulgate regulations containing reasonable requirements to control HAP from motor vehicles or motor vehicle fuels.

In September of 1995, the Sierra Club filed suit against EPA alleging that we failed to promulgate regulations to control HAP from motor vehicles and motor vehicle fuels within the deadlines required under section 202(l)(2). Subsequently, in March 1996, the Sierra Club filed another suit alleging that we failed to issue the source category list under section 112(c) and the strategy under section 112(k) by their respective deadlines. These were initially separate suits but we agreed to address both of these requirements as part of a consolidated consent decree (Defendant's Motion to Consolidate, *Sierra Club* v. *Browner,* (D.D.C. 1996)(N0.99–1747)).

To address the problem of exposure to air toxics in urban areas and to fulfill our obligations under the consent decree, we intend to implement an integrated urban air toxics strategy that addresses the urban air toxics risks from both stationary and mobile sources. This strategy is expected to produce a set of actions that will be more responsive to the cumulative risks presented by multiple sources of toxics and combined exposures to multiple toxics. We believe that by considering urban air toxics emissions from all sources, we will better respond to the relative risks posed by any one pollutant and/or source category. Thus, integration of the activities under both sections of the Act will more realistically address the total exposure and will better allow us and the States to develop activities to address risks posed by toxic pollutants where the emissions and risks are most significant and controls are most cost effective.

As discussed previously, we have a number of Act requirements to address. For instance, section 112(k)(3)(B)(ii) and 112(c)(3) require us to list and regulate area source categories accounting for 90 percent of the aggregate emissions of the 30 HAP identified under section 112(k)(3)(B)(i). Promulgating these standards is an important initial step in the strategy to reduce emissions. However, a separate but equally important requirement of section 112(k)(3)(C) requires us to substantially reduce the public health risk posed by exposure to HAP, including a 75 percent reduction in cancer incidence. It is important to recognize that even though they are linked, because emissions reductions achieved through standards required under section 112(k)(3)(B)(ii) will help in achieving the risk goals under 112(k)(3)(C), they are two separate requirements. There are also some important differences between the requirements. For example, section 112(k)(3)(B)(ii) is limited to emission standards for area source categories emitting the 30 section 112(k) HAP, whereas, section 112(k)(3)(C) refers more broadly to reducing risk from all HAP emitted by all stationary sources. In addition, standards addressing section 112(k)(3)(B)(ii) must be set under the authority of section 112(d), whereas the risk reductions to address section 112(k)(3)(C) can be achieved more flexibly using any of Administrator's authorities under the Act or other statutes, or those of the States.

C. What is our strategy for addressing urban air toxics?

Today's notice presents our draft strategy for addressing urban air toxics on a national level and for working with State and local governments to reduce air toxics risks in our communities. The primary goal of this strategy is to substantially reduce public health risks from air toxics. The basic framework of our strategy is to:

1. Define the air toxics threat for urban areas from a cumulative perspective, considering major, area and mobile sources.

Our implementation of the toxics provisions of the 1990 Amendments to date has focused on setting technology-based emissions standards for individual source categories and, separately, developing fuel and vehicle standards for mobile sources. While we have achieved significant toxics emissions reductions, including reductions in urban areas, we believe that a focused urban strategy is needed to address the ''urban soup'' of multiple toxic pollutants emitted by multiple sources. In this strategy, we have looked at the contribution from all sources of air toxics to develop a draft list of the relatively worst HAP in urban areas. This list of HAP is provided and discussed in Section II. We plan to use our range of authorities under the Act to address these problems in the most effective way possible.

2. Improve our understanding of the risks from air toxics in urban areas.

This draft strategy presents our first steps to characterize ''urban soup'' or the cumulative problem of air toxics in urban areas and describe how risk can be reduced. As described in more detail in Section II of this notice, we have analyzed the most significant HAP in urban areas based on the best available data, including emissions and toxicity information. To understand the risks from air toxics more fully, however, we must address significant data gaps. For example, we have limited information on human health effects associated with many of the HAP, the extent to which people are exposed to air toxics in urban areas, and the effect of exposure to multiple pollutants. We will be providing a brief discussion of our research needs in Section V.

3. Reduce risks from urban air toxics through near- and longer-term actions.

In addition to the research and other efforts planned to improve our understanding of air toxics risks, we are suggesting specific actions that will help achieve emissions reductions in the near-term and longer-term. For example, as part of our statutory requirements, we will be proposing air toxics standards for motor vehicles and motor vehicle fuels, and will begin to develop area source standards by the end of 1999. From 2002 to 2006, we will issue emissions standards for these area sources that contribute significantly to emissions of urban air toxics. In the longer-term, we could also use our residual risk authority to address major sources that are already subject to regulation, but which continue to pose substantial risks to urban areas. More information on these and other actions is found in Section IV.

4. Work with State and local governments on developing urban strategies for their communities.

This draft strategy provides a national picture of air toxics in urban areas, suggests a number of actions that we could take to reduce toxics emissions, and discusses ways to involve State and local governments to address toxics risks on the local level. We anticipate that State and local measures, as well as Federal measures, will be needed to reduce urban air toxics risks. Urban areas can differ greatly in terms of air toxics, sources and meteorology. In addition, State and local programs to address air toxics vary widely; and we recognize that many States have successfully operated many programs to reduce air toxic emissions at the State or local levels. Consequently, we intend to seek collaborative relationships with State and local agencies, minority and economically disadvantaged communities, and affected industries to

assure our actions are responsive to health concerns while promoting environmental justice, encouraging urban redevelopment, and minimizing regulatory burdens. We will further encourage and provide enhanced technical assistance to these States' efforts and will be seeking ways to expand opportunities for flexible and effective State and local actions to address risks in more geographically-specific ways.

In this notice, we are suggesting a broad framework for addressing urban air toxics with some specific actions to reduce emissions and to improve our understanding of risks posed by air toxics. We will work over the next several months with various stakeholder groups, including States, local governments, industry representatives, small businesses, local health officials and environmental groups to refine this strategy. In addition, through our Regional Offices, we hope to reach out to community groups that have not traditionally participated in these efforts but who may be disproportionately affected by air toxics.

D. What are the components of this Federal Register Notice?

This draft strategy for urban air toxics presents our analysis of the HAP posing the greatest threats to public health in urban areas, near- and longer-term actions to address air toxics risks, and a discussion on developing State and local programs. More specifically:

- Section II discusses the health threats posed by air toxics, describes our emissions inventory and our methodology for identifying the HAP estimated to pose the greatest threats to public health in urban areas (based on current information on 1990 conditions), and identifies 33 HAP from all emissions sectors.
- Section III focuses on how we are planning to address air toxics from area sources, as required by section 112(c) and (k), including a draft list of 34 categories or subcategories of area sources that account for 90 percent of the emissions of the worst HAP in urban areas, and that will be subject to additional standards.
- Section IV discusses our near-term actions to address urban air toxics. These include evaluating the need and feasibility for fuels and vehicle standards, developing area source standards, reviewing and expanding monitoring networks, developing modeling tools for national and local scale risk assessments, and beginning to work with State and local governments to set up air toxic programs. It also provides information on what EPA and State programs are currently doing to reduce risks.
- Section V describes our longer-term activities to address air toxics risks in urban areas, including residual risk standards, additional stationary source standards, and possible State program actions. It also discusses our research strategy to characterize risks and to measure progress toward the risks reduction goals of the strategy.

II. List of Pollutants, their Effects and Sources

A. General Overview

This section provides further discussion of what air toxics are and what concerns they present, and describes how we evaluated and selected a draft list of HAP to guide our actions under the strategy. It includes descriptions of our emissions inventory and our methodology for identifying the HAP estimated to pose the greatest threats to public health in urban areas.

In brief, we evaluated the health effects information available for the 188 HAP, estimated emissions from all known sources using a variety of techniques, assessed available air quality monitoring data, reviewed existing studies, and produced a list of pollutants based on the relative hazards they pose in urban areas when considering toxicity, emissions and related characteristics. From this effort, we were able to establish a list of HAP which we believe to pose the greatest threats to public health in urban areas, considering emissions from major stationary, area and mobile sources.

B. What are Air Toxics and what threats do they present to public health?

Toxic air pollutants include a wide variety of organic and inorganic substances released from industrial operations (both large and small), fossil fuel combustion, gasoline and diesel-powered vehicles, and many other sources. The Act as amended in 1990 identifies 188 toxic chemicals as HAP. Major categories of toxic air pollutants include volatile organic compounds, known as VOC, metals and inorganic chemicals, and semi-volatile organic chemicals. Volatile chemicals are usually released into the air as vapor, while semi-volatile organics and metals may be released in the form of particles.

The HAP have the potential to cause various types of harm under certain circumstances of exposure (e.g., depending on the amount of chemical, the length of time exposed, the stage in life of person exposed). We have classified many as ''known,'' ''probable,'' or ''possible'' human carcinogens and have included this information in EPA's Integrated Risk Information System.[3] The HAP can also be described with regard to the part of the human body to which they pose threats of harm. For example, neurotoxic pollutants cause harm to the nervous system. The severity of harm, however, can range from headaches and nausea to respiratory arrest and death. The level of severity differs both with the amount and length of exposure and the chemical itself (i.e., how it interacts with individual components of the nervous system). Some chemicals pose particular hazards to people of a certain age or stage in life. For example, some HAP are developmentally toxic. That is, exposure to certain amounts of these chemicals during the development of a fetus or young child can prevent normal development into a healthy adult. Other HAP are reproductive toxicants, meaning that they may have the potential to affect the ability of adults to conceive or give birth.

In a recent effort to characterize the magnitude, extent and significance of airborne HAP in the U.S. (as part of EPA's Cumulative Exposure Project or CEP), computer modeling was used to estimate outdoor concentrations nationwide using a 1990 national emissions inventory compiled for 148 pollutants from major area and mobile sources (Woodruff et al., 1998). The estimated outdoor concentrations for 119 HAP were compared to health-based benchmarks. The benchmarks for potential cancer effects were set at HAP concentrations which, if experienced throughout a lifetime, are predicted to be associated with an upper bound excess cancer risk of 1-in-1 million. The benchmarks for potential health effects other than cancer were set at exposure concentrations for each HAP which, if experienced over a lifetime, are considered to have no significant risk of adverse noncancer effects. The study looked at more than 60,000 census tracts in the continental U.S. Census tracts vary in size but typically contain a population of approximately 4,000.

[3] The Integrated Risk Information System (IRIS), prepared and maintained by the U.S. Environmental Protection Agency (U.S. EPA), is an electronic data base containing information on human health effects that may result from exposure to various chemicals in the environment. IRIS was initially developed for EPA staff in response to a growing demand for consistent information on chemical substances for use in risk assessments, decision-making and regulatory activities. The information in IRIS is intended for those without extensive training in toxicology, but with some knowledge of health sciences. Further information about IRIS, including the information it contains, can be found on the IRIS web site at http://www.epa.gov/iris.

It is very important to understand that this modeling estimates annual average outdoor concentrations for 1990 and does not incorporate other aspects of exposure modeling, such as differences in concentrations in various micro environments, indoor air and individuals' commuting patterns. Thus, the study did not attempt to estimate the number of people who might be exposed to these estimated concentrations of HAP, nor the frequency or duration of such exposures. For this reason, results should be viewed as an indicator of potential hazard and not as a characterization of actual risk. This effort suggests that HAP exposures are prevalent nationwide; and for some HAP in some locations, the concentrations are significant. Concentrations of eight[4] HAP appear to be greater than their lifetime excess cancer risk-based benchmarks (10^{-6} lifetime individual excess cancer risk) in all of the census tracts, primarily because of background concentrations (i.e., airborne levels occurring as a result of long-range transport, resuspension of historic emissions and natural sources), not just from localized current anthropogenic emissions. Current anthropogenic emissions, however, appear to contribute to concentrations of at least two HAP (benzene and formaldehyde) above the associated benchmark in up to 90 percent of the census tracts. Further, there are 28 HAP for which estimated concentrations were greater than the associated benchmark in a larger number proportion of urban areas than rural areas. In a much smaller number of locations, concentrations of certain HAP were estimated to be more than a factor of 100 greater than the corresponding cancer and noncancer based benchmark.

We conclude from this analysis that for certain HAP, concentrations of potential concern are common in all census tracts. Additionally, there is a subset of the HAP at levels of potential concern in more urban than in rural areas. This project has highlighted many of the HAP on which we will be focusing our attention in the urban air toxics strategy.

C. How did EPA Identify the Priority HAP?

In this section, we present our analysis of what HAP we consider to pose the greatest threat to public health in urban areas as of 1990. Although we have limited information on risks, we used the best available data on air toxics: (1) the National Toxics Inventory, which provides emissions data on the 188 HAP, combined with information on toxicity to determine the relative hazard among HAP; (2) monitoring data available from the Aerometric Information Retrieval System and our toxics data archive, (3) toxicological information from EPA and other government sources, (4) an analysis of previous studies on air toxics in urban area; and (5) the Cumulative Exposure Project analysis of modeled emissions from 148 HAP by census tracts of the contiguous U.S. We begin with a discussion of the emissions inventory and then explain our methodology for picking the HAP in more detail.

1. Emissions Inventory

a. How was the emissions inventory developed?

In order to provide information on all 188 HAP, we are developing and refining the national toxics inventory. Moreover, in order to implement the specific requirements of section 112(k), we believed that it was important to have the best information possible in determining which of the 188 HAP should be included on the urban HAP list. Therefore, we conducted an initial ranking analysis based on the information we had at the time and identified a candidate list of 40 HAP. We provided the candidate list to the public for comment through the Internet in September of 1997. We developed a national inventory of sources and emissions for these 40 potential urban area pollutants considering the information provided by the public for the base year 1990. The base year 1990 was used because it was the year that the Act was amended and, thus, the year in which EPA received congressional direction to take actions to address the hazards posed by HAP. Therefore, we believe that 1990 represents a reasonable starting point for our analyses and regulatory efforts. The base year inventory report can be obtained from our Internet World Wide Web site (www.epa.gov/ttn/uatw/112k/riurban.html). The report notes that current emissions may differ from emissions calculated for the 1990 base year. We used these 1990 emissions estimates for the urban area pollutants identified in the next subsection to evaluate what source categories should be subject to regulation.

The 1990 base year inventory document includes estimates for all sources of the section 112(k) pollutants for which we could establish estimation techniques. We believe this base year inventory report will be a useful reference to those who wish to understand the relative relationship of stationary source emissions (and in particular those that have been evaluated for section 112(k) purposes) to emissions from other types of sources. Therefore, this inventory includes estimates for sources that we believe would not be subject to section 112 regulations (e.g., mobile sources, fires, and residential fuel combustion). In addition, where we do not have data to support an emissions estimate but do have information to suggest a source category is a potential emitter of a section 112(k) pollutant, we note this in the inventory document.

Although section 112(k) focuses on area sources, the inventory provides information concerning both ''major'' and ''area'' sources as defined in section 112(a) of the Act for each source category, as well as mobile source categories. This information is important to our ability to fully characterize risk potential, even though regulatory decisions under section 112(k) focus on area sources.

To address the requirements of section 112(k), we developed a national inventory of sources and emissions of the urban area pollutants based on data collected from the MACT standards program, Urban Air Toxics Program, the Toxics Release Inventory (TRI), the Great Waters Study, the Clean Air Act-mandated Reports to Congress on mercury and electric utility steam generating units, locating and estimating (L&E) documents used as guides to identify and estimate emissions, and review of other published technical literature. Emission factors were obtained from our Compilation of Air Pollutant Emission Factors, Volume I: Stationary, Point and Area Sources (AP–42) document, our Factor Information Retrieval System emission factor database, L&E documents, MACT programs, Federal Aviation Engine Emission Database, and industry studies. Activity data were obtained from published government reports (e.g., vehicle miles traveled data from the Department of Transportation's annual highway statistics, landing and take-off cycles from the Federal Aviation Administration air traffic statistics, energy consumption data from Department of Energy publications), industry trade publications, industrial economic reports, industry trade groups, and the MACT development programs. With the exception of TRI data, the inventory primarily represents the product of a ''top-down'' calculation methodology. This means emissions

[4] These HAP include: benzene, carbon tetrachloride, chloroform, ethylene dibromide, ethylene dichloride, formaldehyde, methyl chloride, and bis(2-ethylhexyl)phthalate.

were estimated by using some measure of source category activity (on the national level) and associated emission factors or speciation profiles for the category and its processes. With a few exceptions (e.g., use of TRI, emissions data from municipal waste combustors, and secondary lead refining operations), section 112(k) national emissions are not the sum of individual facility estimates (i.e., a ''bottom-up'' process). The initial phase of the section 112(k) emissions inventory effort constituted a screening analysis since we were attempting to preliminarily quantify atmospheric releases of all sources of the section 112(k) pollutants. A top-down approach is generally considered an appropriate and cost-effective use of resources for screening efforts such as those needed to assess section 112(k) pollutants. The level of effort required to estimate emissions using a bottom-up approach for all source categories that emit these pollutants would be extremely costly. Should it be dictated as a result of this analysis and listing, such detailed facility-specific emissions information may be collected during the technical analysis phase of MACT program development for the source categories listed for future section 112(k) rulemaking consideration.

b. What is the base year for the inventory?

As noted above, we chose the base year 1990 for the emissions inventory because we believe that the year the Act was amended represents the most reasonable starting point for our analyses and regulatory efforts. Since section 112(k) requires a comparative accounting of the sources of these specific pollutants, we also believed it important that, to the greatest extent possible, all emissions be estimated from the same base year. In several cases, other and perhaps better, emissions estimates were available that represent more current emissions levels. In these instances, the more current estimate was noted, but the 1990 emissions estimate was used for the section 112(k) accounting of the sources of urban HAP. For example, lead emissions from gasoline distribution from the refinery to the storage tanks at service stations (commonly referred to as Stage I) for on-road mobile sources were estimated to be 0.086 tons in 1990. By 1996, there were no lead emissions from this source due to the mandated phaseout of leaded gasoline by December 31, 1995. However, the lead phaseout does not include fuels used for aviation, non-road egines, marine vessels and automotive racing purposes. Data were insufficient to estimate the emissions from fuel usage from non-road engines, marine vessels and automotive racing. For this reason, we are requesting additional information to help quantify emissions of lead compounds from these sources.

c. How were pollutants that are regulated as sets of individual species handled in the inventory?

a. Polycyclic Organic Matter (POM). Various conventions were adopted for developing the inventory of the pollutant groups where no standardized methods currently exist. This is most notably the case for POM, which is defined in section 112(b) of the Act as organic compounds with more than one benzene ring and a boiling point greater than or equal to 100°C, which would include a complex mixture of thousands of polynuclear aromatic hydrocarbons (PAH).

Because compiling the inventory of all POM compounds individually is currently impossible, surrogate approaches have been used. For instance, some of the available POM data are expressed in terms of the solvent-extractable fraction of particulate matter, referred to as extractable organic matter or EOM. Other POM data are defined as being included in either the group of seven or group of 16 individual PAH species, referred to as 7–PAH and 16–PAH, respectively. The species that make up 7–PAH have been identified by EPA as probable human carcinogens, and the 16–PAH are those species that are measured by EPA Method 610. The 16–PAH include the 7–PAH group.

For the purposes of section 112(k), we decided to use 7–PAH as the POM surrogate because of its more well-established relationship to health effects of concern. That is, 7–PAH includes 7 specific carcinogenic compounds, whereas the health significance of the 16–PAH surrogate is less certain.

b. Dioxins and Furans. In developing the emissions inventory to support this action, we initially attempted to inventory the specific dioxin and furan species, but soon found a significant shortage of available emissions data for these pollutants for all pertinent source categories. During the data collection phase of the process, we found that more emissions estimates and emissions factors were available for dioxins and furans on the basis of 2,3,7,8–TCDD toxic equivalent quantities (TEQ, 1989 international-NATO). The MACT program, section 112(c)(6) source category list, and the Office of Research and Development's Dioxin Reassessment Study predominantly report emissions estimates on a 2,3,7,8–TCDD TEQ basis. Therefore, to maximize the number of source categories for which national estimates could be determined on a common basis and best carry out the objectives of section 112(k), EPA chose to use the TEQ method for developing the inventory for dioxin and furan species. It should be understood that TEQs aggregate all of the dioxin and furan species into one value weighted by toxicity, so that the dioxin and furan emissions estimates compiled in this inventory include individual species. More information on the use of the TEQ method can be obtained from the section 112(k) inventory report (www.epa.gov/ttn/uatw/112k/riurban.html).

d. Why and how were national emissions disaggregated to major and area source categories?

For the purposes of section 112(k), determining the percentage of a source category's emissions that come from major sources generally establishes the percentage subject to a given section 112(d)(2) standard unless area sources for the category are also listed and regulated. The allocation of emissions between major and area sources (major/area splits) used for various source categories in the section 112(k) analysis are a rough approximation based on our current understanding of the industries concerned. Where specific data pertaining to major/area splits are available, the splits are typically derived from definitions of facilities, not necessarily the allocation of emissions.

Generally, we collect information on the major/area split during the development of each source category specific regulation by surveying individual facilities with detailed questions. This section 112(k) study is considered a screening analysis, and we considered collecting more detailed data for this study to be cost prohibitive, as well as redundant, since such information will be gathered on a source specific basis during any subsequent regulatory development. For information about the specific major/area splits used in the section 112(k) inventory, see Appendix C of the inventory report. We solicit public comment on the appropriateness of the major/area splits used in the section 112(k) emissions inventory, as well as the inventory estimates of emissions. This information will also be on the web.

e. How were national emissions spatially disaggregated?

Section 112(k) of the Act addresses HAP that ''present the greatest threat to public health in the largest number of urban areas.'' The Act does not provide a definition of ''urban,'' however. To spatially allocate emissions on an urban

and rural basis, we used Bureau of the Census statistical data (U.S. Bureau of the Census, 1990). The Bureau of the Census lists the counties included in each Metropolitan Statistical area (MSA) in the United States. An MSA can include more than one county. We first summed the county population in each MSA. We designated the counties as urban or rural based on the sum of their populations. Emissions were assigned to counties by various methods. In some cases, such as with TRI estimates and data obtained from MACT studies, emissions could be assigned to individual facilities and then summed at the county level.

In cases where facility-specific data were not available or could not be provided in an appropriate format within the time constraints of this project, emissions were assigned to individual counties using surrogate approaches. Two examples of these surrogate approaches include proportioning national non-road vehicle emissions to counties based on population proportioning emissions from some industrial sectors to counties based on 1990 SIC code employment estimates. For a complete list of spatial allocation approaches used in this study, see appendix C of the section 112(k) Inventory Report on the previously mentioned web site.

f. How reliable is the inventory?

The emissions inventory developed to support section 112(k) activities contains data of highly varying specificity and reliability. In some cases, we or the industry prepared the emissions estimates in response to other regulatory initiatives. These data are, in several cases, based on individual facility data or representative, category-wide data developed from extensive testing. Other more source-specific estimate data are based on industry-submitted estimates to TRI, which have been based on testing or process-specific knowledge. Other estimates were based on a top-down approach utilizing limited emission factors. Generally, activity data even for these categories were of reasonably good quality. The emission factor data, however, varied considerably in terms of number, quality, and representativeness. As discussed previously, the draft inventory in this notice reflects the input received.

The section 112(k) 1990 emissions inventory represents the best data available to the Agency for that period. However, as more source categories are evaluated during development of rules and more data on industry activity, emissions factors and source tests become available, emission estimates should continue to improve. In addition, although there is currently no requirement for States to collect and/or report HAP emissions estimates (as there are for criteria pollutant data), many States are developing data bases for HAP emissions. As these programs evolve, emissions estimates will improve further.

g. Has this inventory been reviewed by the public?

A draft of the section 112(k) emissions inventory was made available on EPA's Internet World Wide Web site (www.epa.gov/ttn/uatw/112k/riurban.html) for review by the public in September 1997. In addition, we identified a list of trade organizations, industry, and environmental advocacy groups and contacted them individually by letter to announce the availability of the inventory and to request their reviews. The EPA requested that any comments on the September 1997 draft section 112(k) inventory be submitted by October 15, 1997. The comments submitted were summarized in the EPA document entitled ''Public Comments Received about Technical Aspects of the 1990 Emission Inventory of Forty Pollutants in the Section 112(k) External Review Draft Report,'' which can be obtained from the EPA's Internet Web site mentioned earlier.

2. List of the Priority HAP

a. What are the priority HAP?

Table 1 presents a draft list of HAP that we believe pose the greatest threat to public health in urban areas. Although information is limited regarding actual risks posed by specific HAP emissions, the availability of various other types of information is sufficient to achieve our objective of identifying those HAP posing the greatest potential public health concern in urban areas. Even though section 112(k)(3)(B)(i) requires that we list HAP emitted from area sources, we believe that the public is exposed to complex mixtures of pollutants, and these pollutants are emitted by all sources. The risk from exposure to HAP has public health implications regardless of what the source of the emissions are. We judged these HAP to pose significant health threats and believe it is important to include them in the strategy to support activities to achieve the risk reductions required under section 112(k)(3)(C). Therefore, in the interests of best protecting public health, we have identified HAP considering the cumulative exposure potential of mobile, area, and major stationary source emissions combined. Included on the draft list of urban HAP are those 30 HAP, the identification of which is required under section 112(k)(3), that present the greatest threat to public health and result from area source emissions. Emissions of only these 30 HAP were considered in the area source category listing required under section 112(c)(3) and 112(k). As discussed before, those HAP that are emitted by major or mobile sources, without a significant contribution from area sources, will be addressed using our other existing authorities under the Act, such as section 112(c)(1), 112(d) and 112(f) (these HAP are noted on the table with an asterisk). For example, if there is a major source category that emits one of these HAP and is not currently addressed by MACT or section 129, we may determine additional regulation under section 112(b) is necessary. Alternatively, if the HAP presents more of a local concern, it may be appropriate for the State or local agency to address it under its authorities. In light of the requirement of section 112(k)(3) and EPA's desire to integrate other statutory requirements regarding air toxics, we are requesting comment on whether it is appropriate for us to include the HAP that do not have significant contributions from area sources on the list.

TABLE 1.—DRAFT LIST OF HAP FOR THE INTEGRATED URBAN AIR TOXICS STRATEGY

acetaldehyde	ethylene dichloride (1,2-dichloroethane).
acrolein	ethylene oxide.
acrylonitrile	formaldehyde.
arsenic compounds	hydrazine.
benzene	lead compounds.
bis(2-ethylhexyl) phthalate	manganese compounds.
1,3-butadiene	mercury compounds.
cadmium compounds	methyl chloride*.
carbon tetrachloride	methylene diphenyl diisocynate (MDI).

TABLE 1.—DRAFT LIST OF HAP FOR THE INTEGRATED URBAN AIR TOXICS STRATEGY—Continued

chloroform	methylene chloride (dichloromethane).
chromium compounds	nickel compounds.
coke oven emissions*	polycyclic organic matter (POM) (7–PAH).
1,4-dichlorobenzene	propylene dichloride (1,2-dichloropropane).
1,3-dichloropropene	quinoline*.
2,3,7,8-tetrachlorodibenzo-p-dioxin (& congeners & TCDF congeners)	tetrachloroethylene (perchloroethylene).
ethylene dibromide (dibromoethane)	trichloroethylene
	vinyl chloride.

The method by which we identified HAP for the urban HAP list is summarized here and more fully described in the technical support document in the docket. In order to use the available information in the most robust manner, we ranked HAP for consideration for the urban HAP list in the following three ways. First, we ranked HAP by combining indicators of toxicity and exposure into ranking indices. The surrogates for toxicity were the risk-based concentration (RBC) for inhalation or risk-based dose (RBD) for ingestion. For effects other than cancer, the RBC or RBD represented an exposure estimated to be without adverse effects in human populations, including sensitive individuals. For carcinogenic HAP, we used RBC or RBD values representing both exposures associated with a 1-in-1 million and a 1-in-10 thousand upper-bound predicted lifetime cancer risks. Surrogates for exposure included measured ambient concentrations and emission rates from area, major and mobile sources. As more completely described in the technical support document, seven separate indices were calculated, then combined into a single ranking.

Second, we reviewed a number of existing exposure or hazard assessments concerning HAP that have been conducted previously by EPA, State agencies and others. Fourteen studies were deemed appropriate for comparative ranking of HAP in urban areas because they were sufficiently broad in the pollutants evaluated, they included area sources of HAP, and they focused on the risks presented in urban areas. The resultant HAP rankings from each study were normalized to the same scale, then aggregated to make a total score for each HAP. Carcinogens and noncarcinogens were ranked separately. Because section 112(k) places special emphasis on area sources of HAP, analyses were done for major, area, and mobile sources combined, and for area sources alone.

Third, we used information provided by the CEP which compares modeled ambient concentrations of HAP in urban areas with health-based benchmarks. The CEP used estimates of 1990 HAP emissions rates to model long-term average concentrations at the census tract level for 148 HAP [Woodruff et al., 1998]. A long-term Gaussian dispersion modeling approach was used, with emission estimates drawn from TRI and other EPA databases addressing major, area, and mobile sources. Contributions from historic emissions of persistent pollutants and from nonanthropogenic sources were addressed with background values drawn from measurements in remote locations. The CEP compared its estimated ambient concentrations to benchmarks corresponding to a one in a million upper bound estimate of excess lifetime cancer risks, or no significant risks of adverse noncancer effects. The HAP were prioritized according to the number of urban census tracts in which the modeled concentration was above the health based benchmark.

In our selection of urban HAP for the integrated strategy, we compared and then combined the results of these three separate ranking analyses. Thirty-one of the 33 urban HAP on the draft list in Table 1 were identified as significant by more than one of these separate analyses. Two more HAP, mercury and POM were added to the draft list of HAP. We were concerned that studies considered in the ranking methodology that we used did not fully consider these two HAP. For example, multipathway exposure to persistent pollutants was only considered in one of the ranking methodologies. Therefore, although mercury was identified by only one of the three analyses, it was added to the proposed list because it was identified due to food chain exposures. Moreover, the Mercury Study Report to Congress (December 1997) provides substantial information demonstrating the health and ecological threats posed by mercury in the environment. Thus, in our judgement, had multipathway exposure been more fully considered in the CEP and other studies, mercury would have ranked significantly in them.

The health effect of greatest concern is the neurotoxicity to the developing fetus associated with methylmercury exposure. Fish consumption is a principle pathway for human exposure to methylmercury. Since other forms of mercury are capable of methylation once introduced into the environment, we do not limit the scope of our regulatory analyses to methylmercury, but consider emissions of other mercury species as well. Environmental loadings of mercury which lead to concentrations in fish result from natural sources, historical contamination through different media, and from current inputs, including air emissions. Given the current scientific understanding, it is not possible to quantify how much of methylmercury in fish consumed by the U.S. population is contributed by U.S. air emissions relative to other sources of mercury.[5]

Given the concentrations of people in urban areas, the numerous area sources of mercury emissions in those areas, and the resulting greater potential for people to be exposed to mercury through multiple pathways, we believe that

[5] Critical elements in estimating methylmercury exposure and risk form fish consumption include the species of fish consumed, the concentrations of methylmercury in the fish, the quantity of fish consumed, and how frequently fish is consumed. The typical U.S. consumer eating fish from restaurants and grocery stores is not in danger of consuming harmful levels of methylmercury from fish and is not advised to limit fish consumption. The levels of methylmercury found in the most frequently consumed commercial fish are low, especially compared to levels that might be found in some non-commercial fish from fresh water bodies that have been affected by mercury pollution. While most U.S. consumers need not be concerned about their exposure to methylmercury, some exposures may be of concern. Those who regularly and frequently consume large amounts of fish— either marine species that typically have much higher levels of methylmercury than the rest of seafood, or freshwater fish that have been affected by mercury pollution—are more highly exposed. Because the developing fetus may be the most sensitive to the effects from methylmercury, women of child-bearing age are regarded as the population of greatest interest. An analysis of dietary surveys presented in the 1997 EPA Mercury Study led the EPA to conclude that between 1 and 3 percent of women of child-bearing age (i.e., between ages of 15 and 44) eat sufficient amounts of fish to be at risk from methylmercury exposure, depending on the methylmercury concentration in the fish. These consumers should be aware of the Food and Drug Administration and State fish advisories that suggest limiting the consumption of contaminated fish. Advisories in the United States have been issued by 40 States and some Tribes, warning against consumption of certain species of fish contaminated with methylmercury.

inclusion of mercury in the list of HAP under section 112(k)(3)(B)(i) is appropriate. However, we are seeking comment on the inclusion of mercury on this list and whether it is appropriate to identify a HAP under this subsection based on pathways in addition to inhalation.

Polycyclic organic matter was only evaluated under one of the three analyses and only partially under another and was added to the proposed section 112(k) list based upon its identification in one analysis and a recognition from the scientific literature of its potential hazard. For POM, we are identifying the 7–PAH surrogate, which is focused on seven specific carcinogenic species.

One family of pollutants emitted primarily by mobile sources, diesel exhaust emissions, is not listed in Table 1 but is appropriately noted here as one which is presently undergoing testing or assessment by EPA for its role in the urban air toxics problem. Although diesel exhaust was not specifically investigated in the studies that we used to select the pollutants which do appear in Table 1, we will be considering it along with those specific pollutants listed in Table 1 as we develop and implement the integrated urban strategy.

Diesel engines in highway and nonroad mobile sources are numerous and widespread. There have been recent studies linking diesel emissions to lung cancer and other health impacts. Diesel engines are a source of POM which appears on Table 1. However, there may be other constituents in diesel exhaust that adversely affect health. We have prepared a draft assessment document on the health risks of diesel emissions and have obtained comment on it from the Clean Air Science Advisory Committee of the Science Advisory Board. When this document is completed, it will inform the further development of the integrated strategy for urban air toxics. There are area sources which employ stationary diesel engines, but we are not proposing such stationary engines for regulation under section 112(k) even though they emit POM because we do not believe these engines are a substantial urban source of POM or any of the other pollutants listed in Table 1. Stationary diesel engines used by area sources located in urban environments are primarily used only for emergency service and operate infrequently.

b. How did EPA identify the 30 HAP for section 112(k) purposes?

As discussed earlier, section 112(k)(3)(B) of the Act requires EPA to identify not less than 30 HAP that are estimated to pose the greatest threat to public health in the largest number of urban areas as the result of emissions from area sources. Although the Act requires that these HAP pose threats ''as the result of emissions from area sources,'' it does not state that such threats be exclusively the result of emissions from area sources. Therefore, for the purpose of meeting the requirements of section 112(k) and 112(c)(3), we identified those HAP that pose the greatest threat to public health in the analysis discussed above because they ranked highest relative to the other HAP and because they demonstrated significant contribution from area sources. By identifying the draft list of 30 HAP as those that have a significant contribution from area sources, we are ensuring that the threats posed by those HAP are ''the result of emissions from area sources.'' Without that contribution from area sources, the threat from those HAP would not be as great. We judged an urban HAP to meet this area source demonstration if it was identified in the CEP urban analysis as having estimated concentrations greater than the health based benchmark in a significant number of urban census tracts as a result of area source emissions only, or according to EPA's National Toxics Inventory, augmented by the section 112(k) inventory, its area source emissions accounted for at least 5 percent of the total emissions for that HAP. It is important to remember that these 30 HAP were used in identifying the draft list of new area source categories for which standards will be addressed in the future as required by section 112(c)(3) and 112(k)(3)(B)(ii). The entire list of 33 HAP will be used to guide actions to meet the requirements of section 112(k)(3)(C).

We are taking comment on the criteria we used in developing the HAP list including whether it is appropriate for us to include multipathway exposures as part of this determination; whether it is appropriate to include more than those HAP with significant contribution from area sources; and if we should expand the list to include a broader representation of HAP.

III. Plan for the Area Source Strategy

This section discusses how we intend to use the information collected in the emissions inventory development and HAP ranking assessment efforts to address the requirements of section 112(c)(3) and 112(k)(3) to regulate emissions of air toxics from area sources. It reviews the process of establishing a list of source categories, identifies those source categories we intend to subject to further emission standards, and discusses the significance of the listing processes.

A. How does EPA plan to address area sources of HAP?

One component of the integrated urban air toxics strategy will address the provisions of section 112(k). The basis for the draft area source component of the integrated urban air toxics strategy is our draft list of HAP that, as a result of emissions from area sources, present the greatest threat to public health in urban areas. Section 112(k)(3) requires that we assure that area source categories or subcategories accounting for at least 90 percent ''of each of the 30 identified hazardous air pollutants are subject to standards pursuant to subsection [112](d).'' In addition, section 112(c)(3) specifies that we list source categories or subcategories representing 90 percent of area source emissions of the 30 HAP.

These provisions of the 1990 Amendments reflect Congress's judgment that there are significant health risks from air toxics in urban areas that should be expeditiously reduced. In addition, these provisions reflect an understanding that available information is in many cases insufficient to quantify risks from air toxics. Therefore, we are directed to identify the pollutants from area sources that, in a relative sense, present the greatest threat in urban areas and to set achievable standards to reduce overall emissions of these priority pollutants of concern. By requiring 90 percent of the emissions of each of the identified HAP to be subject to regulation, the statute directs us to seek opportunities for emissions reductions in many industry sectors. However, the statute provided us with significant flexibility to determine the stringency of the sector-based standards (i.e., MACT or GACT standards) and to ensure that they are achievable and reasonable. To provide compliance flexibility, standards are to be performance-based (i.e., in the form of numerical emissions limits) except where infeasible. We will also consider the use of incentives, nonregulatory programs and other innovative approaches in seeking ways to reduce emissions and risks from area sources, as well as other sources addressed by the integrated strategy.

The following presents the analysis of the area source categories that we are considering listing to meet the requirements of section 112(c)(3) and 112(k). Because this section of the Act imposes requirements that are specific to area sources, this discussion did not include an analysis of major or mobile source categories. Any regulatory

activities for those categories will be addressed under other Act authorities.

B. What is a ''listing''?

When we list a source category under the authority of section 112(c), we publicly identify it for regulatory action under section 112(d). As discussed earlier, the details of that regulation, such as what kinds of controls will be imposed or emission reductions accomplished, are determined in the subsequent regulatory development process and cannot be predicted at the time of listing. This strategy is not considered a rule and does not by itself affect the interests of any party in a direct or quantifiable manner. Any standards that result from this listing, however, will undergo full public notice and comment. We believe that this is consistent with section 112(e)(4) of the Act which states:

> Notwithstanding section 307 of this Act, no action of the Administrator adding a pollutant to the list under subsection (b) or listing a source category or subcategory under subsection (c) shall be a final agency action subject to judicial review, except that any such action may be reviewed under such section 307 when the Administrator issues emission standards for such pollutant or category.

At the time we propose new emission standards for a source category or subcategory identified in the final strategy, we intend also to request comment on the section 112(k)(3)(B)(i) listing of the specific pollutants that serve as the basis for the listing of that category or subcategory.

C. What is EPA's goal in area source listing?

The stated purpose of section 112(k) of the Act is ''to achieve a substantial reduction in the emissions of hazardous air pollutants from area sources and an equivalent reduction in the public health risks associated with such sources.'' In addition to assuring compliance with the requirements of section 112(c)(3) and 112(k), our goal in this draft listing action is to meet the purpose of the urban area source program in the most effective and least burdensome way possible.

D. What does ''subject to standards'' mean?

In order to subject a source category to standards, we plan to conduct an evaluation of the source category, then, based on that evaluation, make rulemaking decisions as to what are the most appropriate controls or other requirements for that area source category and publish our findings or promulgate a rule, as appropriate. This process will take place after publication of the final list of newly identified source categories. That is, source categories listed under section 112(c)(3) and (k)(3) will be ''subject to standards'' under section 112(d), but the appropriate controls and resulting emission reductions will not be known until an area source standard is subsequently proposed and promulgated.

E. Which area source categories are to be listed?

The following table summarizes which of the additional source categories EPA intends to list in the final strategy. These categories are in addition to those already listed for which standards have been published or are being developed. Attached as an appendix is a table for each HAP showing the source categories listed. We are requesting comment on the list of area source categories identified below.

TABLE 1.—DRAFT LIST OF SOURCE CATEGORIES FOR REGULATION UNDER SECTION 112(k)

Abrasive Grain (Media) Manufacturing.
Acrylic and Modacrylic Fiber Production.
Agricultural Chemicals and Pesticides Manufacture.
Manufacture of Nutritional Yeast.
Cadmium Refining and Cadmium Oxide Production.
Chemical Manufacturing: Chromium Compounds.
Electronic and other Electric Equipment Manufacturing (SICs combined).
Food Products (SICs combined) manufacturing.
Gasoline Distribution Stage I.
Hospital Sterilizers.
Industrial Inorganic Chemical Manufacturing.
Industrial Machinery and Electrical Equipment (SICs combined).
Industrial Organic Chemicals Manufacturing.
Instruments and Related Products (SICs combined).
Iron and Steel Foundries: Steel Foundries.
Landfills (excluding Gas Flares).
Mineral Wool Manufacturing (includes Wool Fiberglass).
Miscellaneous Manufacturing (SICs combined).
Mobile Homes Manufacturing.
Nonclay Refractories.
Oil and Gas Production: Glycol Dehydrators.
Paint Application (no spray booths).
Pharmaceuticals Preparations and Manufacturing (SICs combined).
Plastics Materials and Resins Manufacturing.
Plastics Products Manufacturing.
Primary Copper Smelting.
Primary Metal Products Manufacturing (SICs combined).
Publicly Owned Treatment Works (POTWs).
Reconstituted Wood Products.
Sawmills and Planing Mills, general.
Secondary Copper Smelting.

TABLE 1.—DRAFT LIST OF SOURCE CATEGORIES FOR REGULATION UNDER SECTION 112(k)—Continued

Secondary Smelting and Refining of Nonferrous Metals.
Storage Batteries Manufacturing.
Textiles (SICs combined).

F. How were the source categories selected for listing?

The language about selecting area source categories in section 112(c)(3) and section 112(k)(3)(b) differs somewhat. Section 112(c)(3) requires us to list sufficient categories ''to ensure that area sources representing 90 percent of the area source emissions of the 30 [listed] hazardous air pollutants'' are subject to regulation under section 112. That would seem to allow us to regulate either 90 percent of the combined emissions of all of the 30 HAP or 90 percent of the emissions of each of the 30 HAP. By contrast, section 112(k)(3)(B) requires us to identify sufficient categories to ''assure that sources accounting for 90 percent or more of the aggregate emissions or each of the 30 identified hazardous air pollutants'' are subject to standards under section 112(d). That language explicitly requires us to regulate 90 percent of the emissions of each of the 30 HAP. Consequently, we selected the interpretation that allows us to read the two provisions consistently. In other words, we assembled a draft list of area source categories sufficient to cover 90 percent of the emissions of each of the 30 HAP.

We ranked area source categories in the 1990 area source emission inventory (described earlier) on a HAP-by-HAP basis. That is, area source categories were ranked for each of the 30 urban HAP (30 separate rankings) by mass of annual emissions (greatest tons per year to least tons per year). For each HAP, we included emissions from those area source categories which are already regulated or listed for regulation. We then selected the greatest-emitting source categories until emissions added up to 90 percent of the total emissions of that HAP. All source categories selected in this process but not already listed under section 112 are then to be listed for regulation.

It is important to note that for POM, we identified source categories based on the 7–PAH surrogate. Because the available data for the 7–PAH form are most amenable to risk analysis, we intend to apply additional emissions standards only to the sources of emissions of this form of POM.

However, we are seeking comment on the appropriateness of this approach.

G. If my source category is already subject to MACT, will section 112(k) mean any changes to my requirements?

Additional requirements, if any, for new or existing standards may follow after we conduct further assessments under section 112(f) of the Act to determine residual risks after the implementation of MACT standards set under section 112(d) and/or whether further actions under section 112(k) and other Act authorities are needed to achieve risk reduction goals. Because these elements of the program are not yet developed, it is difficult to determine what, if any, changes will be necessary. Section 112(k) requires that we ensure that 90 percent of the aggregate emissions are subject to standards. If your area source category is subject to a standard that has already been promulgated, then that standard has been considered in the 90 percent and thus would not require further listing under section 112(k). Where standards have not yet been promulgated for your category, area sources may be made subject to further requirements in order to assure the 90 percent requirement is met.

H. Are changes to the list possible after the strategy is final?

It must be emphasized that, since the emissions inventory is likely to change as new information becomes available from public comments, as well as new data obtained in the regulatory development process, the source categories selected for listing to meet the 90 percent emissions requirement may also change. We expect to make revisions to this regulatory listing based on new emissions information where it is more accurate and effective to do so.

IV. Near-Term Actions To Implement the Strategy

This section discusses actions that we intend to take within the next 2–3 years to address air toxics from all sources, including decisions on the need for, and feasibility of, standards for motor vehicle fuels and emissions, development of standards for area sources, improvement in air quality and emissions databases, development of analytical tools, and initiating collaboration with State and local governments. It also provides summary information about what EPA and State programs are currently in place to reduce risks from exposure to HAP in urban areas.

A. How will EPA develop motor vehicle and/or motor vehicle fuel standards?

As previously discussed, under section 202(l)(2) of the Act, we will promulgate appropriate national regulations controlling HAP from motor vehicles and their fuels. The standards will be based on the updated analyses of the Motor Vehicle Related Air Toxic Study published in 1993 under section 202(l)(1) of the Act, which analyzed the need for, and feasibility of, controlling emissions of toxic air pollutants which are associated with mobile sources. The section 202(l)(2) regulations will reflect the greatest degree of emissions reductions that can be achieved considering various factors including availability and cost, and will at a minimum, address benzene and formaldehyde emissions. We will examine mobile source contributions to urban air toxics health risks and any new national mobile source regulations will be established by 2000. We envision that work done in the early stages of strategy implementation will serve to facilitate the important comparisons of various emissions sources in the urban areas and allow comparisons of control authorities to provide the best relative reduction of risk to the urban public. Although the study of mobile source emissions will be completed soon, and the rules may be among the earliest activities of the strategy, we expect to continue our efforts to ensure coordinated use of our authorities to address priority risks.

We expect to complete activities required by section 202(l) according to the following dates, consistent with the consent decree:

1998: Complete the updated analysis of risks from mobile sources, including addressing comments received from review of that study to provide better estimations of mobile source emissions projected in the future; estimate the exposure and predict risk to the public from motor vehicle toxic emissions in 9 urban areas to better quantify the magnitude of the health risks; and, assess available motor vehicle and/or fuel technologies, and the impact or cost effectiveness of those technologies to achieve the greatest reduction in public health risks from air toxics under section 202(l).

1999: Issue a notice of proposed rulemaking for mobile source standards

2000: Issue final rulemaking on mobile source standards

B. How will EPA develop area source standards?

As discussed in section III, we must ensure that 90 percent of the aggregate emissions of each of the area source urban HAP are subject to regulation. Earlier, we presented the draft list of source categories that must be included in addition to the existing MACT regulations to achieve this requirement. We intend to ensure that the regulations that result are both efficient and warranted for protection of public health. In this notice, we are requesting comment on the following approach to developing the regulations necessary to meet this requirement.

We intend to focus MACT on those area sources where the impact is greatest and where the technology applicable to major sources is also appropriate to area sources. However, there are likely to be circumstances where GACT might be more appropriate than MACT. In establishing the basis for emission standards under section 112(d)(5), Congress provided for GACT for area sources in lieu of MACT. That provision does not define GACT, but only states that the Administrator may elect to promulgate ''standards or requirements * * * which provide for the use of generally available control technologies or management practices by such sources to reduce emission of hazardous air pollutants.'' For instance, there may be important differences in the processes involved or the costs of control that might make it infeasible for area sources to comply with MACT.

Although the primary focus of the specific requirements of section 112(c)(3) and 112(k) is to ensure that at least 90 percent of the aggregate emissions of each of the 30 urban area source HAP are subject to standards, we anticipate that area sources may be further addressed in the strategy, as would major sources and motor vehicles, if we determine that they continue to present significant public health risks either on a national or local level once we have conducted analyses of the estimated reduction of cancer and noncancer health risks.

We are seeking comments on the following schedule for developing the urban area source standards:

1999: Finalize the Integrated Urban Air Toxics Strategy; Initiate the development of additional area source standards

2002: Promulgate 50 percent of the area source standards

2004: Promulgate an additional 25 percent of the area source standards

2006: Promulgate final 25 percent of the area source standards

2008: Submit Report to Congress
2009: Require compliance with the urban air toxics standards

This schedule was established considering the facts that we are currently engaged in significant efforts to develop standards for stationary sources that were previously listed under section 112(c), and that realistic schedule and resource constraints suggest that our efforts to develop additional standards should be phased in over time.

C. What role do major stationary sources play in the strategy?

As previously discussed, section 112(k)(3)(b) requires that we ensure that area sources accounting for 90 percent of the aggregate emissions of the 30 112(k) HAP are subject to standards. Thus, major sources are not affected by the requirements of this subsection.

However, in achieving required reductions in estimated cancer risk and substantial reductions in health risks in general, section 112(k)(3)(C) permits us to consider reductions in public health risks resulting from actions to reduce emissions from ''all stationary sources and resulting from measures implemented by the Administrator or by the States under this or other laws.'' We interpret the language of this section to include reductions in major stationary source emissions as well as area source emissions. Therefore, any reductions resulting from MACT, the national ambient air quality standards, and other programs that achieve reductions in HAP can be included in the assessment of reductions in risks. In addition, in future stages of the strategy, if it is determined that a source category or an individual source is presenting a significant health risk, then it will be addressed under the appropriate regulatory authority. For example, if a source category is currently subject to MACT and it is found to pose a significant remaining risk, then that risk could be addressed through section 112(f) residual risk standards. Similarly, if a specific source is contributing to a local risk problem, then the State or local program may be more appropriate to address that risk. Finally, it is important to note that while additional actions may be required to address risks in the future, the baseline for evaluating what is needed to achieve a 75 percent reduction in cancer incidence remains at the 1990 level.

D. How will EPA review and expand monitoring networks?

In order to better characterize the risks from HAP in urban areas, it is important that we improve our ability to measure HAP in the urban areas. To that end, we are working to improve our monitoring networks for HAP in the urban areas over the next several years. The first step in this effort is to improve our knowledge of where the State and local agencies are currently monitoring HAP. We are currently conducting a study to determine the coverage, comparability, and relevance of existing monitoring networks. Further, recognizing competing resource needs, we are encouraging the State and local agencies to tailor their monitoring programs to address their most pressing air toxics issues and local needs. However, we are requesting the State and local agencies to work with us to develop a monitoring network distribution that capitalizes on existing efforts and capabilities. We expect to add 17 new monitoring sites to the network in 1999. This will include one new site in the major metropolitan areas of each of the ten EPA Regions and an additional site in each of the seven areas with existing Photochemical Air Monitoring System networks. In addition, we are expecting to increase that number by up to 40 additional sites in 2000.

E. How will the consolidated emissions reporting rule fit in the strategy?

In addition to expanded monitoring, we recognize the need for improved emissions information to support air quality, modeling and risk assessments. We are in the process of developing a consolidated emissions reporting rule whose purpose is to simplify reporting, offer options for data exchange, and unify reporting dates for various categories of inventories. This action is expected to consolidate the numerous emissions inventory reporting requirements found in various parts of the Act and is being taken at the request of numerous State and local agencies. Consolidation of reporting requirements will enable these agencies to better explain to program managers and the public the necessity for a consistent inventory program, increases the efficiency of the emissions inventory program, and provides more consistent and uniform data.

As discussed earlier, modeling is one of the primary tools that will be used to estimate the exposure and risk from HAP. We will continue to develop modeling tools and guidance for assessment of risks on both the national and local scales.

F. What is the schedule for conducting risk assessments and assessing progress toward the risk goals?

In addition to the emission standards called for by section 112(k)(3)(B), and to addressing the risk reduction goals described in section 112(k)(3)(C), we expect to conduct assessments and make the determination of whether additional risk assessment and risk management activities are needed on an ongoing basis. However, the schedule for conducting the risk assessments will be influenced by the Agency's goal-setting and strategic planning processes and by the schedules set forth in applicable provisions of section 112, including schedules for the Reports to Congress required by section 112(k)(5). There are a number of interim milestones that must be met in order to conduct these assessments, particularly in the area of developing and refining the modeling tools to conduct these assessments. They include:

1999:
(1) Initiate analyses of risks in urban areas; conduct assessment of the emissions reductions from 1990 level due to current programs and activities;
(2) expand monitoring network to 17 additional urban areas;
2000: Complete the national scale screening model (CEP2)
2001: Complete the local scale risk assessment model (TRIM);

Schedules for conducting more site-specific risk assessments will be established based on the outcome of our efforts to develop, enhance, and support State and local programs in the managing urban air toxics risks.

G. Coordinate with State and local governments to develop or strengthen risk-based air toxics programs.

In order to achieve our risk reduction goals, we will need to look at ways to address public health risks not only on the national level, but also on the local level because many of the factors that influence risks, such as the types of sources, activity patterns, and meteorology, vary from city to city. Much of what has been previously discussed pertains to the tools and programs that can be employed on the national level to address emissions and risks that occur uniformly across the country. However, in order to achieve risk reductions at the local level, it is important that the strategy provide for a strong State or local role. We intend to work with the State and local air program agencies to refine this aspect of the strategy. The following is a discussion of some of the key elements

to developing the nature and scope of the State and local program.

One of our goals in the strategy will be to encourage and support the State and local agencies in reducing public health risks (cancer and noncancer—chronic and acute) in individual urban areas. Because many of these risks are associated with specific local considerations, such as clusters of sources, local meteorology, local fish and other food consumption patterns, industrial make-up, and motor vehicle density and activity in the specific urban area, we believe State and local regulatory avenues are the most appropriate authorities to address these risks. To that end, we envision a process that will provide regulations, technical support and guidance, and/or other support as necessary to State and local agencies to ensure that there are substantial reductions in the public health risks in each urban area. The process is expected to provide flexibility for local planning and allow the development of city specific solutions to localized urban risks. We envision our role in this program to include providing guidance on important elements such as monitoring, emissions inventory development, modeling and risk assessment, control techniques, and enforcement provisions. As in the national elements of the program, we envision a process that will include periodic review of the risks associated with HAP emissions in the urban areas, and reductions achieved to ensure that the program goals are met. In addition, because the goal of the integrated strategy is to achieve public health risk reductions, we believe that the State and local programs should be able to address all emissions sources as appropriate to address the aggregate risks in the area. For instance, if the largest contributor to cumulative risk in an area is a cluster of MACT-controlled sources, then the State may find that controls beyond MACT or those imposed by residual risk are required. Likewise, if the risks are largely due to mobile source emissions based on vehicle activity, then the State or local Agency may consider transportation related measures to address the risk.

1. What are the principles used in developing the State and local program?

Based on our early discussions with a number of State and local agencies, we developed and intend to employ the following principles in developing provisions for use by State and local programs:

- Provide a mechanism to encourage the development of State and local requirements and programs;
- Provide flexibility in implementing the national standards;
- Provide a balance between the need for flexibility for States and local agencies with existing programs and the need to provide a program for those States where Federal requirements are necessary to enable addressing risks from the HAP.

We would like your comments on these principles, including the need for other or different operating principles.

2. What are the key issues that must be addressed in developing the State and local program?

Again, based on our discussions with State representatives, there are a number of key issues that must be addressed which will determine the nature and scope of the State/local programs. They include:

- Should the program be mandatory?
- If the program is required in some way, should the State requirements be federally enforceable and, if so, by what mechanism?
- Should the State and local program include elements to address risk from all emission sectors (area source, major sources and mobile sources)?

We would like your comments on these questions, including important legal, technical, or other factual information in support of your comments.

3. What might these programs include?

State and local representatives working with us developed a number of preliminary ideas of how the program might work. We are requesting comment on these ideas and on other ideas in developing the State and local programs.

One suggested approach might be a control strategy approach where we would set an urban areawide risk reduction target, considering risk from all pathways, which the States could develop control strategies and requirements for achieving those targets. These control strategies would supplement the national MACT program and might include emissions controls or other innovative strategies to address specific local health risks from HAP. Another suggested approach might include States that would be setting technology requirements for sources that contribute to risks above a given level. This would be similar to programs already in place in California, Maryland and other States. Some State and local programs may be more effective if the strategy provides for a purely voluntary program where we would provide Federal guidance and information for reducing risks from urban HAP to the State/local agencies and leave the program design to each individual State or local program to develop and implement. Another approach would be for us to set a HAP ambient concentration level and require/recommend actions from the States where these levels were exceeded for a specified duration and frequency. Another approach may be to use combinations of these options. These options are not mutually exclusive and other ideas might be developed or expanded upon in the future. We are requesting input from you on the feasibility and desirability of these options and on what the appropriate level of State and local involvement should be. We expect to undertake some or all of the following activities under section 112, depending on the outcome of this process:

- Development or strengthening of State and local programs;
- Development of regulations necessary to provide authority to implement the program (if appropriate);
- Development of implementation guidance including information on risk assessment, monitoring, modeling, emissions inventory, potential control options; and,
- Development of risk assessment tools for local planning. While in the near term we intend to initiate discussions with the States to further refine the program, most of these activities will be longer-term activities. We expect to provide you with further information and opportunities to comment as these elements are developed or refined.

H. How does EPA intend to address special concerns about Environmental Justice in the Urban Areas?

As discussed previously, we are particularly concerned about the potential for disproportionate risk in low-income minority communities. The Federal Government has not traditionally sought involvement from these communities in environmental program development and have voiced significant concerns about the difficulties and disadvantages they face when attempting to participate in decisions affecting their communities. We believe that the integrated urban air toxics strategy should evaluate the potential links between toxic exposure and health effects in disproportionately exposed populations, and should address any significant resulting risks. Concurrently, we will consider economic development and employment-related issues to ensure sustainable economic development while addressing unacceptable levels of

risk. In order to facilitate the development of a strategy which will be responsive to these environmental justice concerns, we are actively encouraging community groups not only to comment on the strategy, but also to work actively with us in developing a program that can address their concerns.

I. What EPA or State programs are currently in place to address the risk posed by these HAP?

There are a number of activities that will take place prior to risk-based goal setting envisioned in the national air toxics program that will achieve significant early emissions reductions. They include actions to reduce emissions from mobile, major, and areas sources, both as a direct result of the Act requirements for control of air toxics described above, and requirements under programs (e.g., the national ambient air quality standards) which achieve significant coincidental air toxics benefits. As discussed above, the strategy called for under section 112(k)(3) is to achieve reductions in public health risks through emissions control ''measures implemented by the Administrator or by the States under this or other laws.'' The following presents a summary of Federal and State and local programs that are currently achieving HAP emissions reductions. This information will be considered in our assessments of reductions in public health risks which have been achieved as we evaluate the need for additional regulations.

1. Federal Regulatory Authorities

Clean Air Act, Section 112 Authorities: Under section 112 of the 1990 Amendments to the Act, there are many provisions, authorities, and programs that are reducing, and will continue to reduce, HAP emissions, exposures and health risks. Several of the major programs are discussed below. Further information is available from the ''Second Report to Congress on the Status of the Hazardous Air Pollutant Program under the Clean Air Act,'' EPA–453/R–96–015, October 1997.

Section 112 established a procedure for developing and requiring performance-based emission standards for sources of HAP following a detailed 10 year schedule for action. These standards of control technology, required by section 112(d), are known as MACT standards and GACT standards. We are required to list categories and subcategories of major and area sources of HAP and then, according to a 10 year schedule, establish control requirements to assure that all major sources of HAP achieve the level of control already being achieved by the best performing sources in each category (i.e., MACT standards), and ensure that listed categories of area sources are subject to MACT or, alternatively, to GACT standards, which are controls that are generally available across the industry. As required by section 112(c)(1), we published an initial list of source categories in 1992 (57 FR 31576). Revisions made thus far have included adding and deleting source categories, combining categories for purposes of efficiency, and making other relatively minor changes and corrections. The list currently contains 175 categories, of which 167 are for major sources and eight for area sources (61 FR 28197). Note that some categories include both major and area sources. The schedule, initially published in 1993 (58 FR 63941), specifies source categories for which standards are to be promulgated within 2, 4, 7 and 10 years following November 15, 1990, such that standards are promulgated for 25 percent of the listed categories in the first 4 years (i.e., by November 15, 1994), an additional 25 percent by November 15, 1997, and the remaining 50 percent by November 15, 2000.

We have thus far promulgated standards for all 47 source categories listed in the 2 and 4 year groups, which is approximately 25 percent of the 175 listed source categories. We estimate that these major and area source regulations will reduce air toxics emissions by approximately 980,000 tons per year. Additional MACT and/or GACT emissions standards for the remaining listed source categories are scheduled to be promulgated by November 15, 2000. These standards are expected to obtain substantial additional reductions in air toxics over the next several years and will decrease exposures and risks due to air toxics in urban areas.

Under the Residual Risk Program established by section 112(f), we will be assessing public exposures to HAP following MACT standard promulgation to assess the remaining public health and environmental effects of HAP and issue standards to provide an ample margin of safety to protect public health, if necessary. The residual risk provisions apply to all MACT standards and, therefore, focus primarily on major sources. We have the discretion to apply residual risk provisions to MACT standards that affect area sources as well.

Under section 112(r), we published a final risk management program rule for the Prevention of Accidental Releases on June 20, 1996 (61 FR 31668). Along with the final rule, we published guidance to assist the owner or operator of processes covered by the risk management program rule in the analysis of offsite consequences of accidental releases of substances regulated under section 112(r) of the Act. The list of regulated substances with threshold quantities was published on January 31, 1994 (59 FR 4478). Of the 140 chemicals (77 acutely toxic substances and 63 flammable gases) regulated under section 112(r), 18 are HAP under section 112(b) and eight are on the draft list of urban HAP presented in this notice for public comment. Section 112(r) also requires the source to assess each process to ensure they are safe and will not accidently release HAP. By preventing accidental releases, the section 112(r) rule will help reduce or prevent emissions of these HAP in the future.

Requirements associated with the Act in section 112(g) and 112(i)(5) are also expected to yield reductions in emissions of HAP in urban areas. The Construction and Reconstruction Rule required by section 112(g) of the Act was issued in final form on December 27, 1996 (61 FR 68384). The rule requires, as of July 1, 1998, MACT controls for any new or reconstructed major source of HAP and major HAP-emitting production units at existing facilities. Section 112(i)(5), early reductions rules, provide incentives for sources of HAP to reduce emissions by 90 percent (95 percent for particulates) from 1990 levels prior to the proposal of MACT for that source category. Eligible sources may be granted a 6-year extension from compliance with the later promulgated MACT, during which time they must meet alternative emissions limitations which reflect the early reductions. Approximately 27 permit applications have been received, representing HAP reductions of over 6,800 tpy. Approximately six permits have been issued to date.

Other CAA authorities: In addition to authorities under section 112, there are several other Act sections, the implementation of which may contribute or has already contributed to reductions in air toxics in urban areas. For example, state implementation plans developed to attain compliance with the national ambient air quality standards (set under section 109) are expected to provide incidental, but potentially significant, reductions in HAP in addition to their intended result of reducing levels of criteria pollutants (e.g., particulate matter, ozone, etc).

The Act's mandated acid rain program may also provide HAP reductions in urban areas in addition to the intended

result of sulfur dioxide and nitrogen oxides emissions reductions.

Section 202(l) is a critical part of the national air toxics program and will be very important to the success of the Urban Air Toxics Strategy because efforts to respond to section 202(l) will address exposure to HAP from motor vehicles and motor vehicle fuels. However, section 202(l) is just one example of the Act's authorities regarding mobile sources. Other provisions which may affect reductions in urban air toxics from mobile sources include sections 211 (fuel requirements), 213 (emission standards for nonroad engines and vehicles), and 219 (urban bus standards).

Performance standard setting for solid waste incineration units and landfills under section 129 of the Act, which has been completed for two of the four categories (municipal, medical, industrial and commercial, and other categories of incinerators), is estimated to result in substantial reductions in total HAP emissions (>50,000 tons/yr), much of which may be in urban areas. Under section 129, specific numerical emission limitations are required for various pollutants including lead, cadmium, mercury, and dioxins/furans, all of which are included on the draft list of urban HAP. Like the MACT standards, residual risk applies to section 129 standards and thus potential additional reductions may be possible in these areas.

Title VI of the Act directs us to protect the stratospheric ozone layer through the reduction or elimination of certain chemicals. These ozone-depleting substances include three HAP (carbon tetrachloride, methly chloroform, and methly bromide), one of which, carbon tetrachloride, is included in the draft list of urban HAP in addition to the better known chlorofluorocarbons (CFC). We are implementing title VI through a number of regulatory and voluntary programs which have been successful in reducing production, use, and emissions of many CFC and other ozone depleting chemicals. Production and import of carbon tetrachloride and methyl chloroform were phased out as of January 1, 1996 and the third is expected to be phased out by 2001. Related regulations restrict uses to minimize the potential for these chemicals to get into the atmosphere.

Other Federal laws: There are a number of other authorities, laws, rules, and programs that will also help reduce emissions of HAP and consequent exposures and risks. Some of these are discussed below. We are currently evaluating the appropriateness of these statutes for controlling emissions of HAP as described under section 112(k)(3) and intend to take further actions under these statutes as appropriate.

Under the Toxic Substances Control Act (TSCA), chemicals produced or imported into the United States are evaluated as to toxicity to human health and the environment. To prevent adverse consequences of the many chemicals developed each year, TSCA requires that any chemical that will reach the consumer marketplace be tested for possible toxic effects prior to commercial manufacture. Any existing chemical that is determined to pose health and environmental hazards is tracked and reported under TSCA. Procedures also are authorized for corrective action under TSCA in cases of cleanup of toxic materials contamination. The TSCA is a complementary authority to the Act and has contributed to decreased emissions of several HAP. For example, concern over the toxicity and persistence in the environment of polychlorinated biphenyl compounds (PCB) led Congress to include in TSCA (see section 6(e) of TSCA), prohibitions on the manufacture, processing, and distribution in commerce of PCB. In 1990, TSCA authority was relied upon to eliminate chromium use in and emissions from comfort cooling towers, i.e., industrial process cooling towers used exclusively for cooling, heating, ventilation, and air conditioning systems.

There are several provisions of the Resource Conservation and Recovery Act (RCRA) and its amendments which may yield reductions of urban air toxics. One impact evidenced in the 1990's is increased recycling and recovery of hazardous waste, including solvents which through volatilization contribute to HAP emissions. The RCRA's section 3004(n) has been the basis of a three-phased regulatory program to control air emissions from hazardous waste treatment, storage and disposal facilities. The third phase will address any risks remaining after implementation of the control regulations issued in 1990 and 1994, which were estimated to reduce HAP emissions by more than one million tons per year. Any resulting emissions and risk reductions can be considered in assessing progress in achieving the 75 percent reduction in cancer incidence from the 1990 base year.

Under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund, the clean up of abandoned hazardous waste sites may also reduce emissions of HAP. Where significant health risks from chemical releases to the air have been identified at Superfund sites in urban areas, clean-up will reduce risks from urban air toxics.

Under the Clean Water Act (CWA), States are required to adopt water quality standards for those section 304(a) priority pollutants which may be interfering with their water bodies' designated uses. In response to the CWA, we identified 126 priority pollutants for action. The CWA authorities provide for the regulation of discharges of these pollutants in order to meet applicable water quality standards. Among these pollutants, many are on the draft list of urban HAP. We are exploring how the CWA and the Act tools can be used together to reduce HAP.

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) provides Federal control of pesticide distribution, sale, and use. Several HAP have been used as pesticides. An EPA registration is required of all pesticides sold in the United States and is intended to ensure that pesticide use, when in accordance with label specifications regarding acceptable uses, does not cause unreasonable harm to people or the environment. It is a violation of FIFRA to use a pesticide in a manner inconsistent with its label. Registered pesticides classified as ''restricted use'' may only be used by registered applicators who have passed a certification exam. This restricted use requirement minimizes the number of persons having access to certain pesticides. The FIFRA regulations may also reduce emissions and exposures by banning (canceling or denying registration) or severely restricting pesticide use. Seven individual HAP and members of three HAP compound groups have been banned or severely restricted in their use as pesticides.

Two other Federal laws, the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and the Pollution Prevention Act (PPA) of 1990, while not directly regulating air emissions of HAP, may influence decisions regarding chemical usage and storage and yield significant reductions in air toxics risks in urban areas. The goal of EPCRA is to reduce risks to communities through informing communities and citizens of chemical hazards in their areas. Sections 311 and 312 of EPCRA require certain facilities to report the locations and quantities of chemicals stored at their facilities to State and local governments. This information is used by State and local agencies in preparing for and responding to chemical spills and similar emergencies.

Through EPCRA, Congress mandated that a Toxics Release Inventory be made public. The TRI provides citizens with accurate information about potentially hazardous chemicals stored, manufactured and used in their community so that they have more power to hold companies accountable and make informed decisions about how toxic chemicals are to be managed. Section 313 of EPCRA specifically requires certain manufacturers and all Federal facilities to report to EPA and State governments, all releases of any or more than 600 designated toxic chemicals to the environment (including most of the 188 HAP). Each year, more than 20,000 manufacturing facilities and 200 Federal facilities submit information to us on the releases of chemicals to the environment. We compile these data in an on-line, publicly accessible national database, which is a significant source of information regarding HAP emissions. Reporting requirements for TRI became more comprehensive in 1991, highlighting the importance of pollution prevention. It is expected, and has been observed for some chemicals, that this public accounting for use and disposal of toxic chemicals may lead to reductions in their environmental release.

The passage of the Pollution Prevention Act (PPA) established an environmental hierarchy that establishes pollution prevention (P2) as the first choice among waste management practices and was adopted as national policy. Traditionally, much environmental protection has involved controlling, treating or cleaning up pollution which, in many cases, we continue to create. Pollution prevention, which eliminates or minimizes pollution at the source, is most effective in reducing health and environmental risks because it: (1) Eliminates any pollutant associated risks; (2) avoids shifts of pollutants from one medium (air, water or land) to another, which can result from certain waste treatments; and (3) protects natural resources for future generations by cutting wastes and conserving resources. For waste that cannot be avoided at the source, recycling is considered the next best option. A waste generator should turn to treatment or disposal only after source reduction and recycling have been considered. Pollution prevention strategies include redesigning products, changing processes, substituting raw materials for less toxic substances, increasing efficiency in the use of raw materials, energy, water, land and other techniques. This is done in several ways, such as using voluntary pollution reduction programs, engaging in partnerships, providing technical assistance, funding demonstration projects and incorporating cost-effective pollution prevention alternatives into regulations and other initiatives.

In addition, in 1994, we developed the Waste Minimization National Plan, a voluntary, long-term effort to reduce the quantity and toxicity of hazardous waste through waste minimization. The plan calls for a 50 percent reduction in the presence of the most persistent, bioaccumulative and toxic (PBT) chemicals in hazardous waste by 2005. To assist in implementing this plan, we are developing a software tool to prioritize PBT chemicals to focus national waste minimization efforts and methods to track progress in reducing the presence of PBT chemicals in waste and the volume of hazardous waste streams containing PBT chemicals.

The starting point for selecting chemicals for the national waste minimization list is EPA's Waste Minimization Prioritization Tool, a software program which provides a screening-level assessment of potential chronic risks chemicals pose to human health and the environment, based on their persistence, bioaccumulative potential, and human and ecological toxicity. This software program contains full or partial PBT data for approximately 4200 chemicals. The draft Waste Minimization Prioritization Tool was released for public comment in June 1997 (62 FR 33868, June 23, 1997) and a revised version is expected to be released in early 1999.

In addition to PBT data from the Waste Minimization Prioritization Tool, we are considering a number of other factors in selecting chemicals for the national waste minimization list, including information about the quantity of chemicals in hazardous waste, the number of facilities generating or handling the chemicals in waste, the extent to which the chemicals have been found in the environment, and the significance of the chemicals to the RCRA program, other Agency programs, and States.

We are requesting comment and specific information on other Federal programs, such as the Oil Pollution Act of 1990, that should be considered for potential reductions in risk from HAP.

2. Summary of State and Local requirements

The Act requires that the strategy reduce cancer incidence by actions under ''this or other laws * * * or by the States.'' By including this language, Congress acknowledged that there are many State programs achieving HAP emissions reductions and therefore, reducing the chance for exposure and health risks including cancer. For example, before the Clean Air Act was amended in 1990, many State and local governments developed their own programs for the control of air toxics from stationary sources. Some of these State and local government programs have now been in place for many years and, for some of the source categories regulated by Federal emissions standards under section 112 of the Act, the State or local government programs have likely reduced air toxics emissions and may have succeeded in reducing air toxics emissions to levels at or below those required by the Federal standards. It is clear that Congress intended State and local governments to be important partners in carrying out the mandates of the Federal air toxics program, and the strategy provides a mechanism to recognize the reductions made by them.

Because of the varied nature of the emissions sources, legislative structures, and other factors, the State and local government programs address air toxics in a number of ways. For example, some States and local programs have enacted technology standards for source categories that require controls for specific HAP, much like the MACT program. Other State or local government programs apply a risk standard to sources that prohibit emissions beyond a certain level of risk. Other States use an ambient air standard for air toxics that is based on threshold or exposure levels. Still others may rely on reductions achieved through volatile organic compounds, particulate matter, or lead regulations developed under section 110 or subpart D of the Act that control emissions of HAP to meet national ambient air quality standards. Regardless of the approaches used to address air toxics, State and local governments have accomplished and continue to accomplish reductions of HAP. As we proceed to implement the strategy, we will work with the States to better characterize these reductions in emissions and the resulting reductions of public health risks, including risk of cancer.

V. Longer-Term Activities

This section discusses longer-term activities we expect to take to address risks from air toxics in urban areas, including how we intend to initiate assessments of urban risk, residual risk standards, additional stationary source standards, and possible State program actions. It further discusses our research strategy to better characterize risk and to

assess progress toward the risk reduction goals of the strategy.

A. How will EPA assess improvements in health risks?

1. How will EPA assess the reduction in cancer risk?

As discussed previously, in the integrated urban air toxics strategy, we expect to utilize qualitative assessments of cancer initially by determining the emissions reductions achieved since 1990 and using these emission reductions as rough surrogates for risk. Over time, we intend to develop more quantitative estimates of risk or estimated cancer incidence associated with toxic air pollutants to measure progress toward the Act's goal of achieving a 75 percent reduction in cancer incidence from 1990 levels. This effort is still under development, and the final strategy will include more detailed text describing the cancer risk-reduction estimation methodology and a timeframe for carrying out the analysis.

2. How will EPA assess the reduction in noncancer risks?

As discussed before, Congress also expressed concern in section 112(k) about the noncancer health risks posed by HAP. While Congress did not provide a quantitative goal for noncancer risks, we believe that these risks are important to address. Several issues, however, complicate our ability to assess reductions in noncancer risks. A complication particularly relevant to urban air is our incomplete knowledge about the effect of multiple pollutants. At a more fundamental level, however, while we and other agencies have developed estimates of lifetime excess cancer risks associated with air exposures to many HAP, we do not have comparable quantitative ''risk per exposure'' measures for assessing health risks other than cancer. The reason for this is the assumption that there are thresholds associated with most noncancer health effects such that exposures below the threshold are considered unlikely to be harmful. Consistent with this reasoning, we and other entities charged with protection of public health, have identified ambient air levels for many air pollutants which are unlikely to pose health risks for persons (including sensitive sub-populations) who are exposed to that level over their lifetime. These levels do not, however, provide information on the exposure levels at which health effects are expected (i.e., the threshold). Moreover, these cancer and noncancer concern thresholds do not account for possible additive (i.e., synergistic) or antagonistic effects when there are mixtures of HAP, as in urban areas. The issues raised here necessitate the development of a noncancer risk reduction assessment methodology or selection from among existing methods which differs from that which we intend to follow for assessment of cancer risk reduction.

We intend to address these issues as we proceed to set goals for noncancer risk reductions and provide a description of assessment methodologies, evaluating progress against the goal and identifying appropriate additional risk reduction actions. The final strategy will document our progress in addressing these activities.

3. How will EPA use modeling to assess risks?

In general, two types of models are important to our ability to assess risk to the public from exposure to HAP: (1) transport, diffusion and/or dispersion models simulate the release and transport of pollutants, estimating concentrations at different points in time and space; and (2) Exposure models simulate human activity patterns to estimate the extent to which people may be exposed to pollutants and, therefore, experience some level of risk. Air quality simulation models have a long history of use in providing pollutant concentrations for use in specifying emission limits and assessing control strategies to attain ambient air quality standards. The Guideline on Air Quality Models was established to promote consistency in the use of models within the air management process.

Our use of exposure models to estimate risks to the public from HAP in a meaningful and reliable manner has been more limited. As part of the integrated urban air toxics strategy, we are conducting a pilot modeling study for certain cities to better understand the potential public exposure to HAP. The use of existing modeling tools to estimate exposure potential for the urban air toxics strategy poses special challenges due to the large geographical scale in urban areas relative to the types of exposures which can produce adverse health effects, the large number and variety of sources to be modeled, the variety of pollutants to be considered, and variations in the exposure regimes of significance for estimating the likelihood of effects. For that purpose, we are developing a document describing suggested methodology for using air dispersion models in urban areas. The document illustrates the type of issues encountered when modeling two example urban areas and provides suggestions for State and local agencies to follow when modeling air toxics in urban areas.

4. How will EPA use ambient monitoring to assess risk?

Ambient air quality data can provide valuable input into the assessment of the cancer and noncancer risks from air toxics in urban areas. First, ambient air quality data provide a measure against which any modeling of atmospheric HAP concentrations can be compared for evaluation or verification purposes. Ambient air quality data can also be used to evaluate differences in HAP concentrations from one urban area to another to determine geographic patterns and/or characteristic profiles based on demographic, economic or other attributes of these areas. Finally, trends analyses of ambient air quality data on toxics can provide a measure of the effectiveness of regulatory programs over time. In addition to chronic exposure data, short term exposure data may be important in various noncancer assessments. It is important to recognize that exposure data can include more than ambient air concentrations, and that microenvironmental exposure data can be important to achieve a distribution of the population exposures.

As the goals for the program are established and the early activities are carried out, we will conduct appropriate analyses to determine the success of the program against the goals. If, in the assessment of risk reduction, we conclude that the reduction goals (e.g., 75 percent reduction in cancer risk) are not yet met, we expect to identify and implement additional activities necessary to meet those goals. These activities might include regulations to reduce stationary or mobile source emissions or implementation of specific State programs. Some examples of such actions are described below:

a. Residual risk standards. Under section 112(f) of the Act, we are required to assess the risks remaining after the MACT standards are implemented. For some source categories, more stringent standards to achieve additional risks reductions from those standards might be necessary. We intend to count any resulting risks reductions in the urban areas toward the 75 percent reduction in cancer risks. However, it is important to remember that residual risk only applies to source categories for which there are MACT standards. Because MACT standard development has focused on major sources, the residual risk program will

primarily address risk from major sources.

b. Additional stationary source standards. We will develop section 112(d) standards (MACT/GACT) for the source categories listed previously to address the requirements of section 112(k)(3)(B). Emissions reductions from these standards are expected to reduce HAP-associated health risks, thus providing early progress in achieving the risk goals required under section 112(k)(3)(C). However, it is important to recognize that in order to achieve the risk goals, we may need to go beyond source-category-by-source-category approaches because of concerns about cumulative risk from numerous sources. We believe that individual 112(d) standards may not adequately address those risks without further actions.

c. State program actions. As discussed earlier, in order to achieve our risk reduction goals at the local level, it is important that the strategy provide for a strong State or local role. We believe that this will require significant ongoing efforts to develop and implement the program in the urban areas. We will work with the State and local air program agencies to refine this aspect of the strategy and we expect to provide further opportunities for comment on it.

To address these issues and develop the necessary additional technical, policy and/or regulatory support, we expect to carry out additional efforts under the following schedule.

1999: Convene a State/local work group to better define the State and local program structure
2000: Complete work on program development
2001: Development of any regulations necessary to provide authority to implement the program (if appropriate)
2002: Develop implementation guidance concerning: risk assessment, monitoring, modeling, emissions inventory, potential control options
2006: Assess progress toward goals, including the Integrated Urban Air Toxics Strategy Report to Congress.

d. How will EPA address information and data gaps?

Significant research and data needs must be addressed in order to achieve the goals of the strategy. Estimates of the reduction of cancer incidence and of other significant public health effects related to exposure to HAP targeted in this strategy will require:

- Additional knowledge of both cancer and noncancer health effects of these pollutants. This will include determinations of specific toxicities determined from animal and human studies as well as the development of models to extrapolate across species, across time and across routes of exposure with a special emphasis on the effects of HAP in children.
- Improved monitoring data for ambient levels of HAP to improve spatial characterization of exposure potential and act as a measure against which modeling concentrations can be compared for evaluation or verification purposes.
- Improved data to better understand the potential for disproportionate impacts on minority and low income communities.
- Improved emissions models to estimate and assess HAP emissions in a representative number of cities, and to extrapolate results to other locations, together with atmospheric transport and fate models.
- Improved exposure models that include multiscale air dispersion models (neighborhood, urban, and regional) and simulated microenvironments of exposure, to estimate inhalation exposures to urban HAP and their potential transformation products.
- Improved modeling and monitoring to assess noninhalation exposures to contaminated foods, such as fish, vegetables and beef, resulting from deposition of urban HAP.
- Measurement methods for many HAP for which none are currently available.
- Reference values such as inhalation reference concentrations, acute reference exposure values, and cancer unit risk factors for those among the HAP for which such values have not been developed to perform quantitative risk assessments that EPA plans to use as part of this strategy.[6]
- Statistical methods for quantifying and reducing uncertainty in risk assessments.
- Cost-effective control technologies for all HAP and more effective controls developed for those pollutants predicted to have residual risk using currently available controls.

[6] The use of These values is an essential part of EPA's current practices in conducting risk assessment. For further information about how the we conduct risk assessments please refer to the draft Residual Risk Report to Congress on the EPA website (www.epa.gov/ttn/oarpg/t3/report/rrisk.pdf) and the National Research Council (NRC). 1994 *Science and Judgment in Risk Assessment.* National Academy Press, Washington, D.C. and the Commission on Risk Assessment and Risk Management (CRARM). 1997. Risk Assessment and Risk Management in Regulatory Decision making. Final Report, Volume 2.

e. What is the schedule for addressing the research needs?

Research needed to improve the quantitative risk assessment and risk management of pollutants addressed in the urban air toxics strategy will be identified in a separate research needs chapter of the Integrated Urban Air Toxics Strategy Report to Congress that will be provided to the public in June of 1999. Our current and near-term planned research activities will also be described.

VI. How will EPA communicate with the public on progress in meeting the strategy's goals?

The Act requires us to report to Congress at intervals not later than 8 and 12 years after the date of enactment of the CAA Amendments of 1990. We expect to provide the first Report to Congress when we issue the final strategy on June 18, 1999. We anticipate updating the public periodically on the status of the activities to implement the work plan, as well as the status of the activities to reduce risks in urban areas. However, we also expect to report to the public annually on the air quality and emissions trends for air toxics in urban and other areas in our annual Air Quality and Emissions Trends Reports.

Many of the activities identified in the strategy will require further public notice and comment, and we will be providing further opportunities as they are developed. The public will also be able to measure the progress of the strategy by tracking these milestones.

VII. Regulatory Requirements

A. General

Today's notice is not a rule and does not impose regulatory requirements or costs on any sources, including small businesses. Therefore, the EPA has not prepared an economic impact analysis pursuant to section 317 of the Act, nor a regulatory flexibility analysis pursuant to the Regulatory Flexibility Act (Pub. L. 96–354, September 19, 1980), nor a budgetary impact statement pursuant to the Unfunded Mandates Act of 1995. Also, this notice does not contain any information collection requirements and, therefore, is not subject to the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*

B. Executive Order 12866 and Office of Management and Budget (OMB) Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order.

The Order defines ''significant'' regulatory action as one that is likely to lead to a rule that may either: (1) have an annual effect on this economy of $100 million or more, or adversely and materially affect a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency; (3) materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, this is not a ''significant regulatory action'' within the meaning of the Executive Order. This notice was submitted to OMB for review. Any written comments from OMB and written EPA responses are available in the docket.

C. Regulatory Flexibility Act of 1996

Today's action is not a rule that requires the publication of a general notice of proposed rulemaking. Thus, it is not subject to the Regulatory Flexibility Act of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996. In any case, as mentioned above, this notice does not impose any regulatory requirements. Instead, it merely provides a draft list of source categories and a draft schedule of specific actions. Consequently, this notice will not have any economic impact on small entities.

D. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments. If the mandate is unfunded, EPA must provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.'' Today's rule does not significantly or uniquely affect the communities of Indian tribal governments because it is not a rule and does not impose regulatory requirements or costs on any sources. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

E. Applicability of the E.O. 13045: Children's Health Protection

(62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under E.O. 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This draft strategy is not subject to the Executive Order because it is not a rule, it is not economically significant as defined in E.O. 12866, and the Agency does not, at this time, have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

The public is invited to submit or identify peer-reviewed studies and data, of which the Agency may not be aware, that assessed results of early life exposure to any of the HAP of concern discussed in this notice.

F. National Technology Transfer and Advancement Act

Section 12 of the National Technology Transfer and Advancement Act of 1995 (NTTAA) requires Federal agencies to evaluate existing technical standards when developing new regulations. To comply with NTTAA, the EPA must consider and use ''voluntary consensus standards'' (VCS) if available and applicable when developing programs and policies unless doing so would be inconsistent with applicable law or otherwise impractical.

The EPA believes that VCS are inapplicable to this draft strategy. The section 112(k)(3) strategy and section 112(c)(3) listing are not regulatory actions that require the public to perform activities conducive to the use of VCS. Instead, the strategy and listing are actions performed by the Agency in anticipation of potential future standard-setting, research, and other related activities. The EPA may, however, find that VCS are available, applicable, and practical for regulations that are promulgated in the future pursuant to the strategy and listing. In any case, the Agency requests comments on whether any VCS exist that could be considered for inclusion in this strategy and listing.

Dated: August 31, 1998.

Robert Perciasepe,

Assistant Administrator for Air and Radiation.

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