UNITED STATES DISTRICT COURT
DISTRICT OF COLUMBIA

SIERRA CLUB 85 Second Street, 2d Floor San Francisco, CA 94105-3411, and UNITED STATES PUBLIC INTEREST RESEARCH GROUP 218 D Street, SE, Washington, D.C. 20003, Plaintiffs, v. MICHAEL O. LEAVITT, Administrator, United States Environmental Protection Agency, Defendant.	)	Civil Action No.

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

1. This is an action to compel defendant Leavitt to take actions required by 40 C.F.R. § 80.1045. The regulations contained in 40 C.F.R. § 80.1045, which were promulgated by the United States Environmental Protection Agency (EPA), provide that "no later than July 1, 2003, the Administrator shall propose any requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels that the Administrator determines are appropriate pursuant to section 202(l)(2) of the Clean Air Act." (emphasis added).

2. Explaining that requirement in the preamble to its regulations, EPA stated:

> EPA is including a regulatory provision in section 80.825 that establishes a schedule for a future rulemaking to promulgate any additional vehicle and fuel controls that EPA determines are appropriate under [Clean Air Act] section 202(l)(2). This rulemaking will reassess the standards in place at the time using the information collected through the Technical Analysis Plan ... and other activities related to mobile sources and air toxics ... EPA commits to issue a proposed rule by July 1, 2003, and to take final action on the proposal by July 1, 2004.

66 Fed. Reg. 17230, 17259 (March 29, 2001).[1]

3. Although the July 1, 2003 deadline has passed, EPA has not proposed the regulations described in 40 C.F.R. § 80.1045.

JURISDICTION

4. This action arises under the citizen suit provision of the Clean Air Act, 42 U.S.C. § 7604. This Court has jurisdiction over this action pursuant to said Act, 42 U.S.C. § 7604(a)(2), as well as 28 U.S.C. §§ 1331 and 1361, and may issue a declaratory judgment and grant further relief pursuant to 42 U.S.C. § 7604(a) and 28 U.S.C. §§ 2201 and 2202. Plaintiffs have a right to bring this action pursuant to 42 U.S.C. § 7604(a)(2) and the Administrative Procedure Act, 5 U.S.C. §§ 701 to 706.

5. By certified letter posted on July 10, 2003, plaintiffs gave notice to defendant, pursuant to 42 U.S.C. § 7604(b)(2), of the violations alleged herein.

PARTIES

6. Plaintiff Sierra Club is a nonprofit corporation organized and existing under the laws of the State of California. A national organization dedicated to the protection of public health and the environment, Sierra Club has more than 700,000 members in all fifty states and the District of Columbia.

7. Plaintiff United States Public Interest Research Group (USPIRG), a corporation organized and existing under the laws of the District of Columbia, is a national nonprofit organization dedicated to the advancement of a public interest agenda in the state and federal policy arenas on a variety of issues including (among others) clean air.

[1] In the preamble, EPA mistakenly refers to 40 C.F.R. § 80.825. The relevant requirement appears at 40 C.F.R. § 80.1045.

8. For the reasons stated below, the actions challenged herein cause plaintiffs injury for which they have no adequate remedy at law.

9. Defendant Leavitt is the Administrator of the United States Environmental Protection Agency ("EPA"), and in that role is charged with the duty to promulgate regulations according to the schedules set out in the Clean Air Act.

ALLEGATIONS DESCRIBING PLAINTIFFS' CLAIMS

10. By May 15, 1995, the Clean Air Act required EPA to promulgate regulations "containing reasonable requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels." 42 U.S.C. § 7521(l)(2). The Act further provided that such regulations "shall contain standards for such fuels or vehicles, or both, which the Administrator determines reflect the greatest degree of emission reduction achievable through the application of technology which will be available, taking into consideration the standards established under subsection (a) of this section, the availability and costs of the technology, and noise, energy, and safety factors, and lead time." *Id.*

11. More than five years after that deadline expired, and only after being sued in this Court for its failure to meet that deadline (in *Sierra Club v. Browner*, No. 95-1747 (RWR)), EPA proposed regulations purporting to satisfy § 202(l)(2). 65 Fed. Reg. 48058 (August 4, 2000). EPA did not propose to require any reduction in emissions beyond that already required by other existing or proposed mobile source regulations. EPA stated, however, that "[b]ecause of the continuing potential future health impacts of exposure to the public of air toxics from mobile sources, we propose to continue our toxics-related research activities." 65 Fed. Reg. at 48089/2. In addition, EPA stated

> EPA is also proposing a regulatory provision providing for a future rulemaking that will determine, based on the information available at that time, what additional motor vehicle or fuel controls would be appropriate to control emissions of hazardous air pollutants from motor vehicles and their fuels. ... EPA commits to issue a proposed rule by the end of 2003, and to take final action by the end of December of 2004.

65 Fed. Reg. at 48091/1.

12. EPA's proposed regulations contained a provision providing

> No later than December 31, 2003, the Administrator shall propose any requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels that the Administrator determines are appropriate pursuant to section 202(l)(2) of the Act. The Administrator shall take final action on the proposal no later than December 30, 2004.

Id. at 48104-48105 (proposed § 80.825).

13. In its final rule, EPA stated "[w]e are not establishing new standards for motor vehicles in this rulemaking to control MSAT [mobile source air toxics] emissions." 66 Fed. Reg. at 17241/2. EPA described and explained the fuel standards in its regulations as follows:

> Today's rule adopts an anti-backsliding requirement that EPA believes is appropriate under section 202(l)(2) as a near-term control, that is, a control that can be implemented and take effect within a year or two. We are not adopting long-term controls (i.e., controls that require longer lead time to implement) at this time because we lack the information necessary to assess appropriate long-term controls.

66 Fed. Reg. at 17253/2.

14. EPA further stated "[t]oday's rule adopts near-term controls and puts EPA on a schedule to review, and if appropriate, revise those controls in accordance with the criteria in 202(l)(2)." *Id.* at 17253/3. Specifically, EPA stated:

> EPA is including a regulatory provision in section 80.825 that establishes a schedule for a future rulemaking to promulgate any additional vehicle and fuel controls that EPA determines are appropriate under [Clean Air Act] section 202(l)(2). This rulemaking will reassess the standards in place at the time using the information collected through the Technical Analysis Plan ... and other activities related to mobile sources and air toxics ... EPA commits to issue a

> proposed rule by July 1, 2003, and to take final action on the proposal by July 1, 2004.

66 Fed. Reg. at 17259/2-3 (emphasis added).

15. As indicated above, EPA's final regulations provided:

> No later than July 1, 2003, the Administrator shall propose any requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels that the Administrator determines are appropriate pursuant to section 202(l)(2) of the [Clean Air] Act. The Administrator will take final action on such proposal no later than July 1, 2004.

40 C.F.R. § 80.1045 (emphasis added).

16. Sierra Club, Natural Resources Defense Council and USPIRG petitioned for review of EPA's regulations in the United States Court of Appeals for the District of Columbia Circuit. *Sierra Club v. EPA*, 325 F.3d 374 (D.C. Cir. 2003). In defending its regulations, EPA represented to the Court that it had "established a program for a future rulemaking, to be completed by 2004, to close critical gaps in the Agency's knowledge and further evaluate the achievability of additional controls to reduce toxic emissions." EPA Br. at 36 (excerpts attached as Ex. A hereto).

17. In denying the petition for review, the D.C. Circuit relied expressly on EPA's representations:

> the regulations' effects on industry are still unknown, and the agency held off socking refiners with drastic additional regulations that could interfere with planning on investments and other compliance matters. With relatively mild action now, it [EPA] would be able later to assess, in a rulemaking actually scheduled for 2003-04, the impact of the earlier rules and the benefits and costs of further controls.

Sierra Club, 325 F.3d at 380 (emphasis added).

18. Despite the plain requirements in its own regulations and despite its commitments to the public and its representations to the court, EPA did not issue a proposal by July 1, 2003.

The agency still has not done so. Defendant thereby has failed to perform a nondiscretionary duty within the meaning of § 304(a)(2), 42 U.S.C. § 7604(a)(2).

ALLEGATIONS DESCRIBING PLAINTIFF'S INJURIES

19. EPA has indicated that motor vehicles are the number one source of hazardous air pollutants in America. Each year, according to EPA, they emit 168,000 tons of benzene, 83,000 tons of formaldehyde, 23,500 tons of 1,3-butadiene, and 28,700 tons of acetaldehyde. In addition, they emit more than one million tons per year of other hazardous air pollutants.

20. Benzene, formaldehyde, 1,3-butadiene and acetaldehyde are all known or suspected to cause cancer and other serious adverse health effects.

21. "For onroad and nonroad mobile sources, the EPA estimates that more than 100 million people live in areas of the U.S. where the combined upper-bound lifetime cancer risk from all air toxics compounds exceeds 10 in a million. This risk estimate is dominated by the emissions of benzene, formaldehyde, acetaldehyde, and 1,3 butadiene." http://www.epa.gov/ttn/atw/nata/risksum.html (a copy of EPA's statement is attached as Ex. B hereto).

22. Sierra Club and USPIRG members breathe the pollutants emitted by motor vehicles. As a result their health is threatened. Defendant's failure to propose the regulations described in 40 C.F.R. § 80.1045 injures Sierra Club and USPIRG members. By failing to propose these regulations, defendant delays the promulgation of final regulations and thus prolongs and increases the exposure of members of Sierra Club and USPIRG to highly dangerous substances.

23. Alternatively, if EPA ultimately decides not to promulgate any additional regulations for mobile source air toxics, the agency's delay in proposing a rule delays the

promulgation of final regulations and thus injures Sierra Club and USPIRG members by delaying their opportunity to challenge EPA's new regulations under Clean Air Act § 307(b), 42 U.S.C. § 7607(b).

24. Both Sierra Club and USPIRG would use the information provided in the proposed regulations described in 40 C.F.R. 80.1045 to inform their members and the public about the risks posed by mobile source air toxics and about the steps that EPA is (or should be) taking to reduce those risks. Defendant's failure to propose the regulations described in 40 C.F.R. § 80.1045 injures Sierra Club and USPIRG by depriving them of the information that the proposal would contain.

CLAIM FOR RELIEF

25. The allegations of the foregoing paragraphs are hereby incorporated as if set forth fully herein.

26. Defendant's failure to propose the regulations described in 40 C.F.R. § 80.1045 constitutes a "failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator" within the meaning of 42 U.S.C. § 7604(a)(2).

PRAYER FOR RELIEF

27. WHEREFORE, Plaintiffs request that this Court:

(1) Declare that defendant Leavitt's failure to propose the regulations described in 40 C.F.R. § 80.1045 by July 1, 2003 constitutes "a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator" within the meaning of 42 U.S.C. § 7604(a)(2).

(2) Order defendant Leavitt to propose the regulations described in 40 C.F.R. § 80.1045 in accordance with 42 U.S.C. § 7521(l)(2) and in accordance with expeditious deadlines specified by this Court.

(3) Retain jurisdiction of this action to ensure compliance with its decree;

(4) Award plaintiff the costs of this action, including attorney's fees; and,

(5) Grant such other relief as the Court deems just and proper.

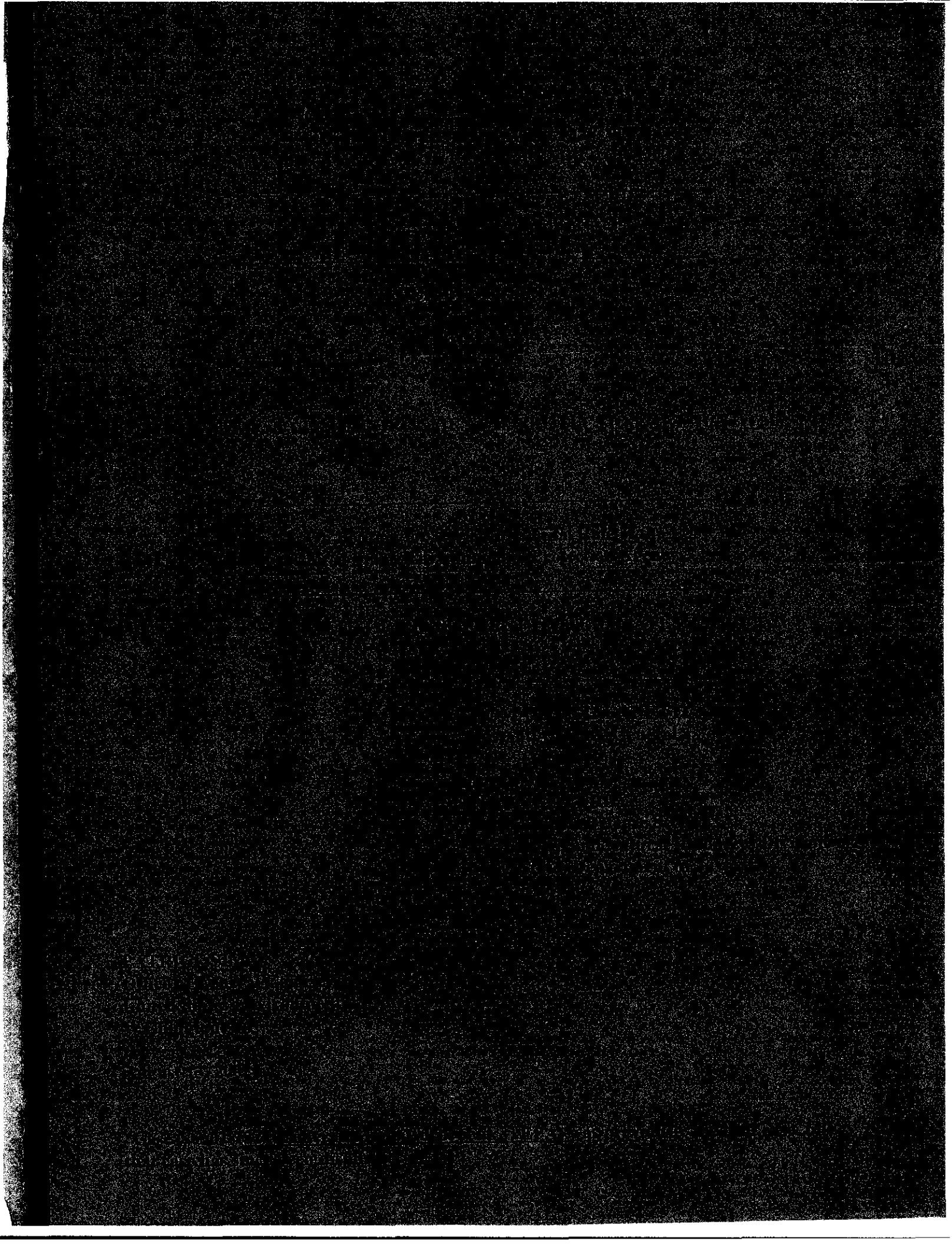
DATED: January 21, 2004

Respectfully submitted,

James S. Pew
(D.C. Bar # 448830)
Earthjustice
1625 Massachusetts Ave., NW, Suite 702
Washington, DC 20036
(202) 667-4500

Attorney for Sierra Club and
United States Public Interest Research Group

EXHIBIT A



concluded that an anti-backsliding gasoline standard represents the greatest degree of toxic emission reduction achievable in the near term from fuel-based controls, considering relevant factors such as cost, available technology, and lead time. 66 Fed. Reg. at 17,245-48, 17,253-54. At the same time, the Agency fully explained why under Section 202(l)(2) it could not at this time impose fuel-based controls that might reasonably be available in the longer term. Id. at 17,253-54, 17,258-59. EPA further established a program for a future rulemaking, to be completed by 2004, to close critical gaps in the Agency's knowledge and further evaluate the achievability of additional controls to reduce toxic emissions. Based on the outcome of that analysis, EPA will determine whether additional fuel-based controls are appropriate. Id. at 17,259-60.

According to Environmental Petitioners, EPA's promulgation of its fuel-based anti-backsliding requirement -- the Toxic Performance Requirement (or "TPR") -- fails to satisfy Section 202(l)(2). They allege that EPA's decision (a) is not "technology-forcing," (b) "unlawfully narrows" to "eight months" the lead time EPA may consider, (c) improperly deferred required action until a subsequent rulemaking, and (d) does not apply to benzene and formaldehyde emissions. Envtl. Brief at 15-21. In so arguing, Petitioners focus -- in isolation -- on the anti-backsliding requirement EPA promulgated, and ignore the full basis for EPA's decision and analyses that support it.

A. EPA Reasonably Concluded That Additional Controls Are Not Appropriate Under Section 202(l)(2) At This Time.

Any emission reductions required under Section 202(l)(2) must be "achievable" through "technology which will be available," considering, among other things, "costs," "lead time," and "standards established under [Section 202(a)]." By not defining the precise "costs" or "lead

EXHIBIT B

About the Assessment

Frequently Asked Questions

Results (Maps, Data, Charts)

Emissions

Modeled Ambient Concentrations

Modeled Human Exposure

Estimated Risk

Limitations, Variability, & Uncertainty .

Peer Review

Air Toxics Reduction

NATA Site Map

NATA Home

ATW Home

Summary of Results

INTRODUCTION

The last step of EPA's national-scale assessment is to characterize the quantitative estimates of risk posed by 32 common air toxics identified by the EPA's Integrated Urban Air Toxics Strategy. (The 33rd air toxic in this assessment, diesel particulate matter, is discussed separately in a more qualitative fashion. Learn more about the risk from diesel particulate matter.) These air toxics were chosen because they pose the greatest potential risks to public health in urban areas. For a general description of risk characterization, see the web page on this topic.

This risk characterization considers the risk of both cancer and noncancer effects from inhalation of these air toxics nationwide, in both urban and rural areas. The purpose of this national-scale assessment is to understand these cancer risks and noncancer health effects to help the EPA identify pollutants and source categories of greatest potential concern, and to set priorities for the collection of additional information to improve future assessments. The national-scale assessment is not designed to characterize risks sufficiently for regulatory action.

The assessment is also designed to be a "snapshot" for measuring progress in reducing risks from exposure to air toxics. For this reason, the national-scale risk assessment is based on a 1996 inventory of air toxics emissions. It then assumes individuals spend their entire lifetimes exposed to these air toxics. Therefore, it does not account for the reductions in emissions that have occurred since 1996 or those that will happen in the near future due to new regulations for mobile and industrial sources (see further details in the Air Toxics Reduction section of the website). The EPA plans to update this assessment every three years. The next assessment, due in 2003, will focus on emissions, concentrations, and risks using information on emissions in 1999.

Given its broad scope, this risk characterization is subject to a number of limitations due to gaps in data or in the state of the science for assessing risk. For example, the current assessment does not yet include results for dioxins, compounds that may contribute substantially to risks. In addition, the EPA is reassessing the health effects of 16 carcinogens and 15 noncarcinogens considered in this study. These assessments are all scheduled to be completed in the next two years. For more details about the limitations in the risk characterization, refer to the Limitations section on the website.

The risk characterization performed here was designed to answer 7 questions:

1. Which air toxics pose the greatest potential risk of cancer or adverse noncancer effects across the entire United States?

2. Which air toxics pose the greatest potential risk of cancer or adverse noncancer effects in some areas of the United States?

3. Which air toxics pose lesser, but still significant, potential risk of cancer or adverse noncancer effects across the entire United States?

4. When risks from all air toxics are combined, how many people have the potential for a cancer risk greater than 10 in a million?

5. When potential adverse respiratory effects from all air toxics are combined, how many people have the potential for exposures that exceed reference levels intended to protect against adverse effects (i.e., a hazard index greater than 1)?

6. What is the cancer risk from mobile sources?

7. What is the cancer risk from background sources?

SUMMARY OF RESULTS

Based on a comparison of the cancer and noncancer risks estimated for the 32 air toxics quantified by the national-scale assessment, it is possible to determine which air toxics pose the greatest potential risk in the United States. Some of these findings are reported below. Cancer risks in this assessment are presented as lifetime risks, meaning the risk of developing cancer as a result of exposure to each air toxics compound over a normal lifetime of 70 years. Noncancer risks are presented in terms of the ratio between the exposure and a reference concentration. This ratio is called the hazard quotient. The risk characterization summary below focuses on results at the national level, where the EPA believes the results are most meaningful. To understand the results, five points should be considered:

- EPA has classified 29 of the 32 air toxics in the assessment as carcinogens. Six are classified as known human carcinogens, five as probable carcinogens on the basis of incomplete human data, sixteen as probable carcinogens on the basis of adequate animal data, and two as possible carcinogens on the basis of incomplete animal data. Separate risk characterizations are described for air toxics compounds that are known carcinogens and those that are probable carcinogens. Additionally, the EPA and other regulatory agencies have developed assessments for adverse health effects other than cancer for 27 of the 32 air toxics in the assessment.

- For cancer and noncancer results, the EPA looked for pollutants whose risks were above specified cancer risk and noncancer hazard levels (e.g., cancer risks exceeding 1 in a million or hazard quotients greater than 1.0). The levels chosen are not regulatory levels. They are provided here simply to help in judging the relative importance of different pollutants with regard to their potential to cause adverse health effects. For example, those air toxics compounds producing a cancer risk larger than 1 in a million are likely to be of more concern than those producing a cancer risk of less than 1 in a million. The determination of what is an acceptable or unacceptable risk depends on additional factors and more refined information; this larger issue is not addressed in this risk characterization.

- Because many reference concentrations incorporate protective assumptions designed to provide a margin of safety, a hazard quotient greater than one does not necessarily suggest a likelihood of adverse effects. A hazard quotient less than one, however, suggests that exposures are likely to be without an appreciable risk of noncancer effects during a lifetime. Furthermore, the hazard quotient cannot be translated into a probability that an adverse effects will occur, and is not likely to be proportional to risk. A hazard quotient greater than one can be best described as only indicating

that a potential may exist for adverse health effects.

- Model-to-monitor comparisons for seven air toxics suggested a general tendency for ASPEN to underestimate measured ambient levels. On average, modeled concentrations ranged from 93% of monitored levels for benzene to 15% for chromium. Thus, the model to monitor comparison results suggest that the ASPEN model may systematically underestimate ambient concentrations for the 7 pollutants that were evaluated. Given that air monitoring data are usually more reflective of actual ambient conditions and given the apparent tendency of the ASPEN model to underestimate ambient concentrations, it is possible that ambient concentrations for other pollutants are underestimated as well. As a result, risk estimates based on the ASPEN model may be underestimated. Further, the relative importance of these compounds with respect to cumulative risk (classification as national cancer risk driver or regional cancer risk driver) may be underestimated.

- The cancer risk estimates are considered "upper bound," meaning they are an upper estimate of risks from a given exposure level. For several of the more important hazardous air pollutants, the cancer risk estimates are based on the statistical best fit to human data, and are therefore less conservative than estimates based on statistical upper confidence limits developed from animal data. Because the EPA estimated exposures to typical individuals in each census tract, the risk estimates can be best interpreted as upper estimates of risk to typical individuals (if we assume that exposures are not underestimated). Therefore, most individuals are likely to have actual risks that are either equal to or less than the risks estimated by this study, but some individuals may have actual risks that are greater.

The following conclusions on individual air toxics compounds were drawn from the risk characterization:

National cancer risk drivers: The EPA identified air toxics compounds posing an estimated upper-bound lifetime cancer risk exceeding 10 in a million to more than 25 million people (i.e., more than 10% of the U.S. population lives in census tracts where upper-bound lifetime cancer risks from these air toxics compounds exceed 10 in a million). For known carcinogens this comparison shows the greatest risks for benzene and chromium. For probable carcinogens this comparison shows the greatest risk for formaldehyde.

Regional cancer risk drivers: The EPA identified air toxics compounds posing an estimated upper-bound lifetime cancer risk exceeding either (a) 10 in a million to more than 1 million people or (b) 100 in a million to more than 10,000 people. Pollutants already identified as national risk drivers above were not re-listed as regional risk drivers. For known carcinogens this comparison shows the greatest risks for arsenic and coke oven emissions. For probable carcinogens this comparison shows the greatest risks for 1,3-butadiene and polycyclic organic matter (POM).

Important national cancer risk contributors: To identify lower but still important risks at the national level, the EPA identified air toxics compounds posing an estimated upper-bound lifetime cancer risk exceeding 1 in a million to more than 25 million people (i.e., more than 10% of the U.S. population living in census tracts where the upper-bound lifetime cancer risk exceeded 1 in a million from that air toxics compound). Pollutants already identified as national or regional risk drivers were not included here. For known carcinogens this comparison shows important national risks for nickel. For probable carcinogens this comparison shows such risks for acetaldehyde, carbon tetrachloride, chloroform, ethylene dibromide, ethylene dichloride, and perchloroethylene. If exposures for acetaldehyde

and perchloroethylene had been adjusted to reflect the average results of the model-to-monitor comparison, both compounds would have been ranked as regional cancer risk drivers.

Important regional cancer risk contributors: To identify lower but still important relative risks at the regional or urban level, the EPA identified air toxics compounds posing an estimated upper-bound lifetime cancer risk exceeding 1 in a million to more than 1 million people. Pollutants already identified above as risk drivers or contributors above were not included here. For probable carcinogens this comparison shows such risks for acrylonitrile, beryllium, cadmium, ethylene oxide, 1,3-dichloropropene, hydrazine, and trichloroethylene. For possible carcinogens, this comparison shows such risks for quinoline and 1,1,2,2-tetrachloroethane. If exposures for cadmium had been adjusted to reflect the average results of the model-to-monitor comparison, it would have been ranked as a regional cancer risk driver.

National noncancer hazard drivers: The EPA identified air toxics compounds for which the hazard quotient exceeded 1.0 for more than 25 million people (i.e., more than 10% of the U.S. population lives in census tracts where the typical exposure exceeded the reference concentration for this compound). The EPA found only one substance, acrolein, to pose the greatest relative hazard for effects other than cancer. Acrolein's reference concentration is based on irritation of the lining of the respiratory system.

Regional noncancer hazard drivers: The EPA identified air toxics compounds for which the hazard quotient exceeds 1.0 for more than 10,000 people (i.e., more than 10,000 people living in census tracts where the typical exposure exceeded the reference concentration for this compound). The assessment shows that the air toxics that pose the greatest relative hazard at the regional or urban scale are acetaldehyde, arsenic, 1,3-butadiene, formaldehyde, and manganese. If exposures for cadmium, chromium, and lead had been adjusted to reflect the average results of the model-to-monitor comparison, all three metals would have been ranked as a regional noncancer hazard drivers. Note that the capability of the study to find potential hot spots in small regions of the country is limited by the tools used in the study, making it possible that some regional hazard drivers may have been overlooked because they occur in small regions.

The following conclusions on simultaneous exposure to all air toxics compounds were drawn from the risk characterization:

Cumulative Cancer Risks: The EPA added the cancer risks from all air toxics compounds listed as known or probable carcinogens based on human data. More than 200 million people live in census tracts where the combined upper bound lifetime cancer risk from these compounds exceeded 10 in one million risk. The EPA performed a separate calculation adding the cancer risks from all air toxics compounds listed as known or probable carcinogens, regardless of whether this was based on human or animal data. The combined upper bound lifetime cancer risk exceeded 10 in one million for the entire United States, and exceeded 100 in one million for more than 20 million people.

Cumulative Noncancer Hazards: Ideally, hazard quotients should be combined for pollutants that cause the same adverse effects by the same toxic mechanism. However, because detailed information on mechanisms was unavailable for most of the substances considered in this assessment, the EPA used a simpler and more conservative method. Many of the pollutants in this assessment cause adverse effects in humans or animals by irritating the lining of the respiratory system. Although it is not clear that this irritation occurs by the same mechanism for all such air toxics compounds, the EPA conservatively assumed that these irritation effects could be added. These additive effects were represented by a "respiratory

hazard index," which is the sum of the hazard quotients of the eight air toxics compounds that are respiratory irritants. The respiratory hazard index was dominated by a single substance, acrolein. The respiratory hazard index exceeded 1.0 for nearly the entire U.S. population, and exceeded 10 for more than 20 million people.

The following conclusions on exposure to air toxics compounds from mobile sources and background were drawn from the risk characterization:

Mobile Sources: For onroad and nonroad mobile sources, the EPA estimates that more than 100 million people live in areas of the U.S. where the combined upper-bound lifetime cancer risk from all air toxics compounds exceeds 10 in a million. This risk estimate is dominated by the emissions of benzene, formaldehyde, acetaldehyde, and 1,3 butadiene. Regarding effects other than cancer, acrolein emissions are estimated to lead to exposures above the reference concentration (i.e., a hazard quotient above 1.0) for approximately 200 million people in the U.S. The EPA expects that in 2007 existing standards affecting emissions of air toxics compounds from new vehicles will lead to a reduction in exposure from onroad sources of about 50% from 1996 levels, and that substantial reductions will also occur for nonroad emissions. Already the Agency has proposed undertaking additional research on this set of air toxics as a high priority in its proposed Mobile Source Air Toxics rule.

Background Sources: The EPA estimates that combined upper-bound cancer risks associated with air toxics compounds from background sources are less than 100 in 1 million throughout the U.S. However, the entire U.S. population is estimated to exceed a cancer risk level of 10 in a million due to background sources alone. (Note that in this study background concentrations include both uncontrollable emissions such as persistent historic emissions, international or global pollutant transport, contributions from natural sources, and emissions that can be controlled such as long-range pollutant transport within the U.S.)

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Last updated on Wednesday, January 21st, 2004
URL: http://www.epa.gov/ttn/atw/nata/risksum.html