Lead Initiative Briefing Book

RCRA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Rec'd

AUG 22 1991

OFFICE OF ENFORCEMENT

MEMORANDUM

SUBJECT: Lead Initiative Briefing Book

FROM: Scott C. Fulton
Director of Civil Enforcement

TO: Deputy Regional Administrators
Regions I - X

I would like to take this opportunity to thank you and your staff for all your assistance in launching the lead initiative We believe that the preparation and hard work resulted in a successful effort. For your reference, attached please find a copy of the final briefing book accompanying the initiative. We hope that you find it useful.

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RCRA

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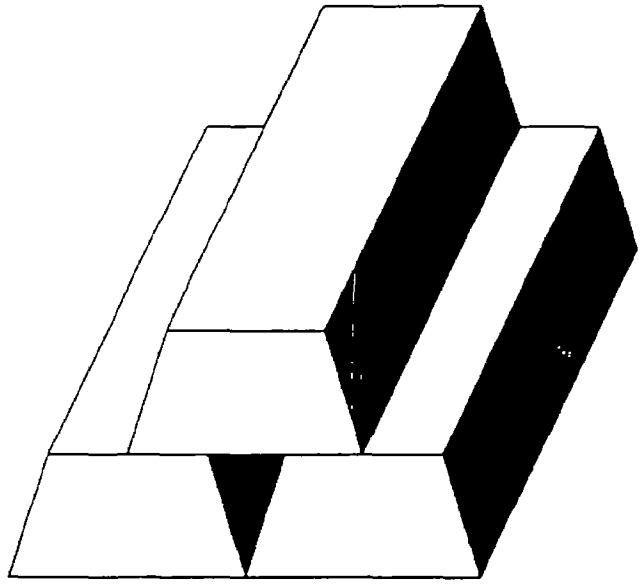
TAB 1

United States Environmental Protection Agency
Washington, D.C. 20460

Office of Enforcement

EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION



UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY

COMMUNICATIONS AND
PUBLIC AFFAIRS
(A-107)

EPA

Environmental News

FOR RELEASE: WEDNESDAY, JULY 31, 1991

NATIONWIDE CRACKDOWN TO ENFORCE LEAD REDUCTION REGULATIONS

Gwen Brown (202) 382-4383

The Department of Justice and the U.S. Environmental Protection Agency today launched a nationwide crackdown to enforce existing lead laws and regulations aimed at reducing lead exposure to the public and the environment, with particular emphasis on high blood lead levels in children. The Department of Justice today filed 24 judicial enforcement actions in federal courts throughout the country while EPA took direct administrative enforcement action against 13 facilities, assessing over $10 million in administrative penalties.

The actions filed today were developed and organized in a new way to broaden the impact of EPA's enforcement program. For the first time the federal government is coordinating the filing of enforcement actions to reduce a specific environmental pollutant through the simultaneous use of six environmental statutes: the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund Law; the Clean Water Act (CWA); the Safe Drinking Water Act (SDWA); the Clean Air Act (CAA); and the Emergency Planning and Community Right-to-Know Act (EPCRA). Together these statutes address a significant number of lead compliance problems across the country.

Attorney General Dick Thornburgh said, "This initiative demonstrates the federal government's commitment to use a wide variety of statutes in our law enforcement arsenal to attack lead contamination in this country. While none of these cases presents immediate emergency and danger to the public health, the long-term adverse effects of lead are well known.

"Our priority in these environmental cases is to halt illegal practices, clean up the contaminated site, and where appropriate, collect penalties and reimbursement for past cleanup costs incurred by the federal government," Thornburgh said.

"In today's actions, 20 different United States Attorneys have worked with us to file civil complaints and request injunctions to stop continued contamination. In one case, we have even sought the court's contempt power against a responsible party," Thornburgh said.

"While the Agency's goal," EPA Administrator William K. Reilly said, "is to reduce lead emissions through prevention and control programs, today's enforcement actions by EPA and DOJ show that the Administration is determined to enforce existing regulations on lead pollution vigorously."

Lead is a highly toxic metal that produces a range of adverse health effects, particularly in children and fetuses. Today's actions are part of a broad interagency effort announced earlier this year to reduce lead exposure. Over the past few decades, the country has made significant gains in reducing lead exposure. Specifically, as a result of EPA's lead phasedown regulations implemented in 1975, the amount of lead in gasoline has been reduced over 99 percent. Enforcement of the gasoline lead phasedown regulations has resulted in the collection of some $20 million to date.

The 21 RCRA cases in today's initiative address lead contamination in soil, water and air -- all of which have the potential of causing substantial harm to human health and the environment. The judicial actions in this initiative call for civil penalties of up to the statutory maximum of $25 thousand per day per violation, with the administrative actions seeking penalties in excess of $10 million.

As part of the enforcement initiative to reduce lead contamination, DOJ and EPA also have filed six complaints and lodged two consent decrees under the Superfund Law. These Superfund enforcement actions involve various sites across the country and over 100 potentially responsible parties. Together, the six complaints request reimbursement of about $10 million dollars in Superfund money that the Agency spent on cleanup actions at sites where lead was a contaminant.

In one administrative case under the Superfund law, EPA has reached a settlement that will require the cleanup and removal of lead contaminated soil from daycare centers, parks, yards, schools, playgrounds and unpaved streets and alleys in and around East Helena, Mont. This action will reduce lead exposure to children living and playing in the area.

EPA is also filing two administrative cases under EPCRA against companies in Pennsylvania and West Virginia seeking a total of $219,000 in civil penalties.

In addition, there are three judicial actions alleging violations of the Clean Water Act, and two cases under the Clean Air Act. One of the Clean Air Act cases involves lead phasedown violations, and alleges that a company improperly sold 25 million grams of lead. In another air case, the company has already agreed to a penalty of $200,000 plus over $400,000 in projects designed to advance the environment, including one directly designed to minimize use of lead at the facility.

EPA is also conducting a comprehensive review of lead emissions to ambient air. The emissions of lead from 29 designated primary and secondary smelters were reviewed in May 1990. Of the 29 smelters reviewed, 22 were in compliance with state and federal air pollution requirements; six were in violation; and one is currently being evaluated. The six violating sources have been the subject of federal and state enforcement actions. EPA and the states are currently negotiating with these violating facilities in order to ensure installation of controls and to bring them into compliance. The Agency expects to complete the analysis of the lead emissions to ambient air by September 1991.

(List of today's enforcement actions attached.)

R-133

United States Environmental Protection Agency
Washington, D.C. 20460

Office of Enforcement

PRE-BRIEFING AGENDA: EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

- **INTRODUCTION:**

  On July 31, 1991, the U.S. EPA and the Department of Justice will file a series of cross-media enforcement actions, both civil judicial and administrative, against major sources of lead emissions in all of EPA's ten Regions.

- **EPA ENFORCEMENT AND THE LEAD STRATEGY:**

  The enforcement actions are part of EPA's Strategy for Reducing Lead Exposures (Lead Strategy), issued on February 26, 1991. The Agency's lead enforcement initiative is an aggressive, coordinated cross-media approach to improving compliance with existing regulations governing lead emissions. EPA intends to put the regulated community on notice that the Agency is committed to aggressive enforcement actions in all media to ensure compliance with existing lead regulations.

- **OVERVIEW OF THE CASES:**

  The cases in the initiative will be filed under six environmental laws: The Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund Law); the Clean Water Act (CWA); Safe Drinking Water Act (SDWA); the Clean Air Act (CAA); and the Emergency Planning and Community Right to Know Act (EPCRA).

- **COMMUNICATIONS STRATEGY:**

  The regulated community and the general public will receive notice that the Agency is committed to aggressive enforcement actions to ensure compliance with existing lead regulations.

  Critics may say that the Agency has not targeted the most egregious sources of lead emissions. They might allege that EPA is pursuing relatively simple enforcement actions in this initiative, rather than

target the more complex, long-term contributors to the lead problem. In response to this reaction, EPA should emphasize the cases of major significance and point out that this initiative is only or ' part, albeit a very significant one in its own right, of the overall comprehensive Agency lead strategy. The Agency's long-term strategy including enforcement, abatement programs and regulatory and pollution prevention programs, will address more complex problems associated with removing lead from the environment.

TAB 2

United States Environmental Protection Agency
Washington, D.C. 20460

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IMPACT ANALYSIS FOR HANK HABICHT: EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

WHAT WE'RE DOING TODAY

The United States Environmental Protection Agency and the Department of Justice are taking action to enforce existing lead regulations under six environmental laws to reduce lead emissions that present a clear and present danger to public health and the environment.

- Twenty-one cases in this initiative are brought under the Resource Conservation and Recovery Act, the nation's hazardous waste management law. These 21 RCRA cases address lead contamination in soil, water and air, all of which have the potential of causing substantial harm to human health and the environment.

- One RCRA site, for example, is a gray iron foundry, outside Charlotte, Michigan, located within one-half mile of three City of Charlotte municipal water supply wells and adjacent to residential neighborhoods.

- The Superfund enforcement actions brought today will help reduce lead contaminated groundwater, treat lead contaminated surface and subsurface soils, and eliminate the airborne threat of lead contaminated dust to residences nearby various sites across the country.

In addition, EPA's direct administrative action at Superfund Sites will result in one case in an agreement requiring the cleanup and removal of lead contaminated soil from daycare centers, parks, yards, schools, playgrounds, and unpaved streets and alleys in and around East Helena, Montana.

The actions taken under the Clean Water Act and the Safe Drinking Water Act all alleged violations of permit limits for lead. One case, an SDWA settlement with EBCO Manufacturing Co., Inc., of Columbus, Ohio, involves the removal of lead-contaminated water coolers from schools and businesses.

Finally, the actions taken under the Clean Air Act include a case in which EPA alleges a Minneapolis, Minnesota company violated regulations which limit the amount of lead permitted in gasoline. This kind of enforcement action indicates why EPA's lead phasedown regulations have reduced the amount of lead in gasoline over 99 percent since 1975, thereby reducing the amount of lead contributed to urban soils by motor vehicles.

United States Environmental Protection Agency
Washington, D.C. 20460

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IMPACT ANALYSIS F. HENRY HABICHT: EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

WHAT WE'VE DONE IN THE PAST

Attached is a series of short summaries of federal civil enforcement cases involving lead during past two years.

DRAFT

Examples of Federal Civil Enforcement Cases Involving Lead During Past Two Years

1. United States v. Sharon Steel Corp. et al. (D.Utah)(CERCLA 106, 107) was an enforcement action concerning the Sharon Steel Tailings Site in Midvale, Utah near Salt Lake City. The United States sought an injunction directing cleanup of the site as well as our past and future costs from the former and current site owners and from a company that arranged for disposal of its tailings at the site. The Midvale Tailings Site is an abandoned 230 acre tailings pile contaminated with lead and other metals which threatened a nearly residential area and the local groundwater. Material blowing from the pile and the resulting lead contamination in the soils in residential Midvale presented a risk to children through ingestion and inhalation of the contaminated dust. In November, 1990, we settled separately with the three defendants in the case for a total of about $62 million, obtaining $22 million from Sharon Steel Corporation, $21 million from Atlantic Richfield Company, and approximately $20 million from the UV Liquidating Trust. Cleanup operations at the site are now underway.

2. United States v. Sanders Lead Company, et al., is a RCRA action that was filed in October 1989 in the Middle District of Alabama. The Complaint alleges eight claims for relief against a secondary lead smelter, two of its executive officers, and three affiliated companies/corporations involved in recycling lead contaminated plastic battery chips. The primary claim alleges that Sanders Lead lost interim status to operate several land disposal units after November 8, 1985. Those units were shut down by Sanders in November of 1988. The Complaint also alleges that Sanders violated the land ban regulations during parts of 1987 and 1988, illegally operated an off-site plastic battery chip waste pile until 1990, illegally disposed of a small quantity of lead-contaminated blast slag at the Wiley Sanders Truck Lines Company site, and violated numerous other regulatory provisions of RCRA. Although the case is scheduled to go to trial on September 3, 1991, a settlement involving a payment of a $2 million civil penalty is in the final stages of being negotiated.

3. U.S. v. Gulf Coast Recycling, Inc., et al. is a CERCLA cost recovery case filed in the Middle District of Florida. The United States entered into a Consent Decree in February of this year with Gulf Coast Recycling Inc., ("GCR") a generator who arranged for the disposal of several hundred truckloads of lead-acid battery casings at a landfill in Hillsborough County, Florida, which is a Superfund site. Under this Consent Decree, GCR agreed to implement a remedy at the Site estimated to cost $3,500,000. GCR also agreed to reimburse EPA for $130,000.00 in past costs, and to be obligated to pay EPA's future costs. The owners of the

Site agreed to pay $250,000 of EPA's past costs. This settlement addresses 100 percent of EPA's costs.

4. United States v. Apache Energy and Minerals, et al. (D. Colo)(CERCLA 106, 107)) is a pending enforcement action filed in 1986 concerning the California Gulch Superfund Site centered in Leadville, Colorado. The site is an approximately 12 square mile former mining area in the Rocky Mountains. The town of Leadville is part of the site and much of the surface soils in the urban area as well as the rest of the site are contaminated with lead and other heavy metals from mining operations that lasting nearly a century. We seek an injunction directing the defendants to clean up the contamination and pay our past and future costs. The major defendants are ASARCO, which operated many of the mills and smelters that created the wastes, and other mining companies which owned or operated mines, mills, or smelters throughout the history of activities.

5. United States v. Smuggler Durant, et al. (D.Colo)(CERCLA 107) is a pending enforcement action filed in September 1989 concerning the Smuggler Mountain Site centered in Aspen, Colorado. Mining activities at this site generated tons of mill tailings heavily contaminated with lead which over time were spread across large areas of the surface. Recently, homes, apartments, condominiums, and mobile homes were constructed on top of the contaminated tailings. The high levels of lead in the tailings present risks to health, particularly if the surface soils around the residences are disturbed. The enforcement action seeks our past costs and a declaratory judgment holding defendants liable for our future costs.

6. United States v. Atlantic Richfield Company, Inc. et al. (D. Montana)(CERCLA 107) is an enforcement action filed in June 1989 concerning the Clark Fork Superfund sites in southwestern Montana. These mining waste sites address the contamination generated by mining, milling, and smelting activities of the Anaconda Copper Mining Company in and around the cities of Butte and Anaconda, Montana commencing in the 1880's. The entire basin of the Clark Fork River, which eventually flows into the Columbia River, is contaminated with slag, tailings, and mining waste from Anaconda's operations. The waste contaminated with lead and arsenic is present in surface soils in Butte, Anaconda, and other communities, in the surface waters of the Clark Fork and its tributaries, and in the groundwater. ARCO, the successor in interest to Anaconda, is the primary defendant in this action which seeks all the United States' past costs and a declaration that ARCO is liable for all future response costs.

7. Tar Creek Site. CERCLA. This is a lead and zinc mining site in northeast Oklahoma covering 40 sq. miles. EPA conducted remedial action at the site to address lead contamination of surface and groundwater. A CERCLA cost recovery consent decree was entered with six mining company PRPs in May 1991.

8. Cherokee County Site. This is a continuation of the Tar Creek Site in southeast Kansas. EPA has implemented an alternative water supply remedy for a portion of the Site. Negotiations continue with PRPs for site-wide remedy.

9. Jasper County Site. This is the Missouri portion of Tar Creek and Cherokee County Sites. An RI/FS will begin soon to address lead and zinc contamination.

10. United States v. Michael Company, (S.D. Iowa, CERCLA) is a cost recovery action filed in May 1990 involving multiple lead battery recycling and reclamation sites in Bettendorf, Iowa.

11. Clark Oil & Refining, (E.D. Mo. Clean Air Act) is a case in which the U.S. asserted claims in bankruptcy against Clark Oil for violations of the lead phasedown regulations governing the content of lead in gasoline. The case involved 5,250,000 grams of illegal lead credits. The case was settled for a $520,000 penalty.

12-14 United States v. Gulf States Oil & Refining, (S.D. Tex.) United States v. Jeffy's, Inc., United States v. Lion Boulos (S.D. Tex.) are cases that were brought in Texas against refiners, wholesalers and retailers of leaded gasoline involving violations of the lead content regulations under the Clean Air Act.

15. United States v. Master Metals, Inc. (N.D. Ohio) is a pending action under the Resource Conservation and Recovery Act (RCRA) in which the United States has sought to enforce the requirements of a Consent Decree entered by the Court on January 15, 1990. The defendant, Master Metals, Inc., owns and operates a lead smelter in Cleveland, Ohio, at which it stores hazardous waste containing lead, including spent industrial lead-acid batteries, in waste piles, drums, and other containers prior to reclamation. On August 29, 1990, the United States filed a motion asking the court to enforce the Consent Decree and to hold Master Metals in contempt. Based on inspections conducted by the United States Environmental Protection Agency (EPA), the United States alleged that defendant was in serious violation of numerous requirements of the Consent Decree, including that it had: failed to remove waste piles containing lead waste; created new unauthorized waste piles; stored lead waste in containers that were in poor condition, resulting in leaks into the environment; and failed to minimize releases of waste that could threaten human health or the environment. Therefore, the United States asked the Court to order Master Metals to stop accepting hazardous waste, to remove from the facility the hazardous waste that was already there, and, pending removal of the waste, to transfer it to secure containers. In addition, the United States asked the Court to enforce requirements of the Consent Decree that defendant obtain liability coverage required under RCRA and the Decree, and set aside sufficient funds to assure that defendant would be able to

finance sampling and cleanup required under the Decree. The United States also opposed defendant's requests for additional time to comply with the liability coverage requirements of the Decree, and opposed defendant's motion to consolidate this case with another pending action against Master Metals under the Occupational Health and Safety Act concerning employee exposure to unsafe levels of lead at the Master Metals facility. In addition, the United States has demanded that Master Metals pay stipulated penalties for its violations of the Consent Decree.

16. United States v.USS Lead Refinery, Inc., is a Clean Water Act case filed in 1985 for violations at a lead refinery that has now been shut down. Upon review of a motion for partial summary judgment filed by the United States, the Magistrate, on March 9, 1987, recommended that summary judgment should be granted to the United States, finding among other things, that USS Lead had: (1) discharged without a permit; (2) failed to submit necessary reports; and (3) had discharged in excess of permit limitations. On August 2, 1990, the Court adopted the findings of the magistrate and granted partial summary judgment for the United States. A proposed Consent Decree was entered into between the United States and USS Lead in May 1991. The Consent Decree: (1) requires USS Lead to provide a weatherproof cover over certain toxic dust and sludge piles on the site until they are removed or closed; (2) prohibits USS Lead from operating the plant without complying with a validly issued National Pollution Discharge Elimination System permit; (3) requires USS Lead to pay certain stipulated penalties and consent to Environmental Protection Agency access to the site; (4) and requires USS Lead to pay a civil penalty of $55,000, with $40,000 being paid in equal quarterly installments over the first 300 days after entry of the Decree. The balance of $15,000 is to be deferred pending the occurrence of various events.

17. United States v. Refined Metals Corporation (S.D. Ind.) is a pending action under two federal environmental statutes, the Clean Air Act and the Resource Conservation and Recovery Act ("RCRA"). The action involves defendant's lead reclaiming facility in Indianapolis, Indiana. The complaint, filed on November 21, 1990, alleges that defendant's facility exceeded the limitations for air emissions under the Clean Air Act, set forth in the State of Indiana's State Implementation Plan. The complaint also alleges that defendant violated requirements of RCRA applicable to facilities that generate, treat, store, or dispose of hazardous waste, including that defendant continued to treat, store or dispose of hazardous waste after it had lost authorization to do so; and failed to submit plans that meet the requirements of RCRA for closing hazardous wastes units to minimize the possibility of releases of waste to the environment, and to demonstrate financial ability to perform sampling and cleanup required under closure plans. In addition, the complaint alleges that hazardous wastes have been released to the environment. Therefore, the United States asked the court to require the defendant to perform corrective action to cleanup

contamination. The United States also asked the court to order defendant to comply with all other requirements of RCRA and the Clean Air Act, and to pay a civil penalty.

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TALKING POINTS FOR F. HENRY HABICHT: EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

- **INTRODUCTION:**

On July 31, 1991, the U.S. EPA and the Department of Justice will file a series of cross-media enforcement actions, both civil judicial and administrative, against major sources of lead emissions in all of EPA's ten Regions. The United States Environmental Protection Agency for the first time is coordinating the filing of enforcement actions to reduce a specific environmental pollutant, lead, through simultaneous use of six environmental statutes. In that effort, the Justice Department will file approximately 24 judicial enforcement actions in federal courts around the United States, and EPA will announce direct administrative enforcement actions against 12 facilities, assessing some $10 million in total penalties.

- **EPA ENFORCEMENT AND THE LEAD STRATEGY:**

The enforcement actions are part of EPA's Strategy for Reducing Lead Exposures (Lead Strategy), issued on February 26, 1991. The goal of the Lead Strategy is to significantly reduce lead exposures to the public and the environment, with particular interest in reducing the risk of high blood lead levels in children. EPA is working under the Lead Strategy to reduce lead emissions through enforcement, pollution prevention programs, and educational and training activities.

Lead causes a broad range of health and environmental problems. It is a highly toxic metal, producing a range of acute and chronic health effects, particularly in children and fetuses. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension.

Elemental lead is indestructible and ubiquitous in the environment. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline) and lead in drinking water. Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in consumer products.

The federal government has made considerable progress in the past decade. Children's blood lead levels have dropped dramatically due to federal action. Particularly worth noting are the efforts of EPA's Office of Air and Radiation's to address lead problems, including the significant decrease in the amount of lead in gasoline, where, as a result of EPA's lead phasedown regulations, the amount of lead in gasoline has been reduced over 99 percent since 1975, thereby reducing the amount of lead contributed to urban soils by motor vehicles. Penalties collected resulting from the settlement of lead phasedown cases, including expenditures to obviate economic benefit, are approximately $20 million to date.

The enforcement actions announced today comprise just one integral facet of the Agency's overall Lead Strategy. The Agency's lead enforcement initiative is an aggressive, coordinated cross-media approach to improving compliance with existing regulations governing lead emissions. EPA intends to put the regulated community on notice that the Agency is committed to aggressive enforcement actions in all media to ensure compliance with existing lead regulations.

United States Environmental Protection Agency
Washington, D.C. 20460

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TALKING POINTS FOR RAY LUDWISZEWSKI: EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

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- **OVERVIEW OF THE CASES;**

The cases in the initiative will be filed under six environmental laws: The Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund Law); the Clean Water Act (CWA); Safe Drinking Water Act (SDWA); the Clean Air Act (CAA); and the Emergency Planning and Community Right to Know Act (EPCRA).

The 20 Resource Conservation and Recovery Act (RCRA) cases in this Initiative address lead contamination in soil, water and air, all of which have the potential of causing substantial harm to human health and the environment. The RCRA Program establishes management standards for hazardous waste to prevent contamination. When there is a violation of these standards, RCRA provides for injunctive relief, corrective action and the issuance of civil penalties against violators. The judicial actions in this Initiative call for civil penalties of up to the statutory

maximum of $25,000 per day per violation. The Administrative actions seek penalties in excess of $10 million. Penalty amounts account for the economic benefit of non-compliance to the violato and also serve as a deterrent to potential future violations.

One RCRA site, a gray iron foundry, outside Charlotte, Michigan, is located within one-half mile of three City of Charlotte municipal water supply wells and is adjacent to residential neighborhoods. Two private wells are located within 500 feet of the site. Sampling has confirmed widespread contamination of the property with groundwater contamination suspected due to the presence of highly porous soil.

Also, as part of the Initiative, EPA and DOJ will file six complaints and lodge two consent decrees under the Superfund Law. These Superfund enforcement actions involve various sites across the country and over a hundred potentially responsible parties.

Together, the six complaints request reimbursement of about $10 million dollars in Superfund money that EPA spent on cleanup actions at six sites where lead was a contaminant.

EPA's Superfund cleanup actions will help reduce lead contaminated groundwater, treat lead contaminated surface and subsurface soils, and eliminate the airborne threat of lead contaminated dust to nearby residences. In one case, sample results of private wells indicated lead contamination of up to 99 parts per million. One complaint is also seeking enforcement of an EPA Administrative Order that required the defendants to clean up lead contaminated residential soils in and around Granite City, Illinois.

The two Superfund judicial consent decrees involve agreements by private parties to undertake cleanup actions worth about $7 million dollars in Superfund response actions. The cleanup actions will include the capping of lead contaminated soils and the treatment of groundwater.

In addition, EPA is also taking direct administrative action at four other Superfund sites. In one case, EPA has entered into an Administrative Order on Consent that will require the cleanup and removal of lead contaminated soil from daycare centers, parks, yards, schools, playgrounds, and unpaved streets and alleys in and around East Helena, Montana. About half of the yards, playgrounds, and parks in East Helena have more than 1,000 ppm lead in their surface soils. This action, in particular, will reduce lead exposure to children living and playing in the area.

The United States is filing two cases under the Clean Water Act and one under the Safe Drinking Water Act. All three cases involve alleged violations of permit limits for lead. One case, an SDWA settlement with EBCO Manufacturing Co., Inc., of Columbus, Ohio, involves the removal of lead-contaminated water coolers from schools and businesses and the payment by the company of $220,000 in penalties, the largest penalty to date under the Safe Drinking Water Act.

EPA also is filing two administrative cases under the Emergency Planning and Community Right to Know Act (EPCRA) against companies in Pennsylvania and West Virginia seeking a total of $184,000 in civil penalties.

The United States is filing a complaint and lodging a consent decree today in two Clean Air Act cases (CAA). A civil CAA complaint is being filed against Farmers Central Exchange, Inc. of Minneapolis, Minnesota for allegedly violating CAA regulations which limit the amount of lead permitted in gasoline.

A consent decree resolving alleged CAA violations against Gates Energy Products, Inc., of Warrensburg, Missouri, was lodged in the U.S. District Court for the Western District of Missouri. According to the terms of the consent decree, Gates has agreed to pay a civil penalty of $200,000 and make all corrective actions required under the CAA. Additionally, Gates has agreed to implement three supplemental enforcement projects that will reduce the overall public health and

environmental risks from exposures to lead and other hazardous chemicals at it Warrensburg, Missouri, and Gainesville, Florida, plants.

Earlier this month a judicial settlement was lodged resolving CAA violations against E.I. Dupont de Nemours (Dupont) of Wilmington, Delaware for CAA lead phasedown violations at a gasoline terminal facility in Carteret, New Jersey. Dupont paid $875,000 in settlement of the United States' claim for penalties for the alleged violations in this case.

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Also, as part of the Initiative, EPA and DOJ will file six complaints and lodge two consent decrees under the Superfund Law. These Superfund enforcement actions involve various sites across the country and over a hundred potentially responsible parties.

Together, the six complaints request reimbursement of about $10 million dollars in Superfund money that EPA spent on cleanup actions at six sites where lead was a contaminant.

EPA's Superfund cleanup actions will help reduce lead contaminated groundwater, treat lead contaminated surface and subsurface soils, and eliminate the airborne threat of lead contaminated dust to nearby residences. In one case, sample results of private wells indicated lead contamination of up to 99 parts per million. One complaint is also seeking enforcement of an EPA Administrative Order that required the defendants to clean up lead contaminated residential soils in and around Granite City, Illinois.

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A consent decree resolving alleged CAA violations against Gates Energy Products, Inc., of Warrensburg, Missouri, was lodged in the U.S. District Court for the Western District of Missouri. According to the terms of the consent decree, Gates has agreed to pay a civil penalty of $200,000 and make all corrective actions required under the CAA. Additionally, Gates has agreed to implement three supplemental enforcement projects that will reduce the overall public health and

environmental risks from exposures to lead and other hazardous chemicals at it Warrensburg, Missouri, and Gainesville, Florida, plants.

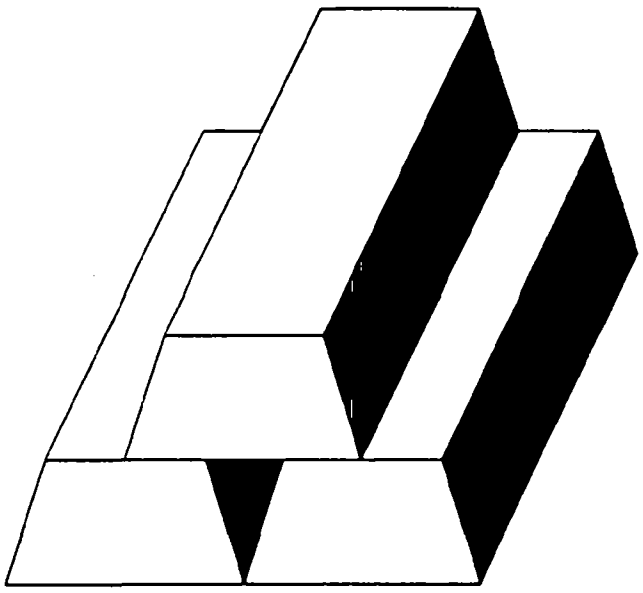
Earlier this month a judicial settlement was lodged resolving CAA violations against E.I. Dupont de Nemours (Dupont) of Wilmington, Delaware for CAA lead phasedown violations at a gasoline terminal facility in Carteret, New Jersey. Dupont paid $875,000 in settlement of the United States' claim for penalties for the alleged violations in this case.

TAB 3

United States Environmental Protection Agency
Washington, D.C. 20460

Office of Enforcement

EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION



FACT SHEET FINAL: July 31, 1991 -- 9:58 am

EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

The United States Environmental Protection Agency for the first time is coordinating the filing of enforcement actions to reduce a specific environmental pollutant, lead, through simultaneous use of six environmental statutes. In that effort, the Justice Department will file approximately 24 judicial enforcement actions in federal courts around the United States, and EPA will announce direct administrative enforcement actions against 12 facilities, assessing in excess of $10 million in total penalties.

The enforcement actions are part of EPA's Strategy for Reducing Lead Exposures (Lead Strategy), issued on February 26, 1991. The goal of the Lead Strategy is to significantly reduce lead exposures to the public and the environment, with particular interest in reducing the risk of high blood lead levels in children. EPA is working under the Lead Strategy to reduce lead emissions through regulatory research and enforcement, pollution prevention control programs, and educational and training activities.

The Agency's lead enforcement initiative is an aggressive, coordinated cross-media approach to improving compliance with existing regulations governing lead emissions. EPA intends to put the regulated community on notice that the Agency is committed to aggressive enforcement actions in all media to ensure compliance with existing lead regulations.

The cases in the initiative will be filed under six environmental laws: The Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund Law); the Clean Water Act (CWA); Safe Drinking Water Act (SDWA); the Clean Air Act (CAA); and the Emergency Planning and Community Right to Know Act (EPCRA).

In another noteworthy administrative case under the Superfund Law, EPA has reached a settlement that will require the cleanup and removal of lead contaminated soil from daycare centers, parks, yards, schools, playgrounds and unpaved streets and alleys in and around East Helena, Montana. This action, in particular, will reduce lead exposure to children living and playing in the area.

Lead causes a broad range of health and environmental problems. It is a highly toxic metal, producing a range of acute and chronic health effects, particularly in children and fetuses. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension.

Elemental lead is indestructible and already ubiquitous in the environment. Any additional lead disbursed has the potential to increase the already high lead burden on our children. The Agency's use of all of its enforcement tools is an invaluable means of recuding this unacceptably high burden. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline) and lead in drinking water. Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in consumer products.

This initiative is an opportunity to report to the public on EPA's continuing and past enforcement efforts relating to lead. The federal government has made considerable progress in the past decade. Children's blood lead levels have dropped dramatically due to federal action. Particularly worth noting are EPA's efforts to significantly decrease the amount of lead in gasoline.

As a result of EPA's lead phasedown regulations the amount of lead in gasoline has been reduced over 99 percent since 1975, thereby reducing the amount of lead contributed to urban soils by motor vehicles. The lead phasedown regulations reduced the amount of lead allowed in gasoline from the approximately 2.5 grams per gallon of the early 1970's, to 0.1 grams per gallon since 1986.

Enforcement of the lead phasedown regulations has resulted in the issuance of over 130 notices of violation, with proposed penalties of $100 million. Penalties collected resulting from the settlement of lead phasedown cases, including expenditures to obviate economic benefit, are approximately $20 million to date. As a result of the lead phasedown regulations over 150,000,000 grams of excess lead were eliminated from gasoline production as a direct result of EPA's enforcement activities, with an estimated environmental benefit of over $40 million.

EPA is also taking significant action to address the problem of lead emissions in the ambient air. EPA undertook a program in May of 1990 to review the lead air quality emissions from 29 designated primary and secondary lead smelters. This investigation was designed to reduce ambient lead exposure and to assess the additional measures necessary to achieve the national ambient air quality standards for lead (LEAD NAAQS). It consisted of the following steps:

1. Conducting Federal compliance investigations and taking enforcement action where appropriate. As of October, 1990 EPA had conducted inspections at all 29 facilities. At this time, 22 of the 29 smelters are in compliance with State and Federal air pollution requirements with respect to lead, six are in violation and one is currently being evaluated. The six violating sources have been the subject of Federal and State enforcement actions. EPA and the States are currently negotiating with these violating facilities in order to ensure the expeditious installation of controls and return them to compliance.

2. Conducting a comprehensive ambient air quality analysis. Twenty-six of the 27 operating smelters (two have been permanently shut down) under review had monitors installed as of June, 1991. The remaining smelter will have monitors installed shortly. Ten of the source's monitors are indicating violations of the NAAQS. Air quality data from the remaining smelters will be analyzed as the information becomes available. It is expected that the air quality analysis will be completed by September, 1991.

3. Making calls for revisions to State Implementation Plans (SIPs) where it is determined that the compliance investigation could not achieve attainment of NAAQS and the ambient air quality data demonstrated a continuing violations. As of June 1991, four SIP calls were issued. With the recent passage of the Clean Air Act Amendments, SIP revisions will be required in those area which are designated as nonattainment for the lead standard. As of June 1991, 13 additional areas have been designated as being nonattainment for lead. As the air quality data becomes available, EPA will be making further decisions regarding the need for SIP revisions.

At the conclusion of this process, EPA will have identified the areas needing enhanced

Agency over-sight either through enforcement actions or through the development of additional regulatory requirements.

EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

Below is a table of cases comprising the EPA Initiative to Reduce Lead Contamination. The cases are listed by state. A summary of the case appears at the indicated page. Administrative case listings include proposed penalty amounts EPA seeks. In each civil judicial case, the United States is seeking the statutory maximum penalty for each day of violation.

ALABAMA

U.S. v. American Brass, Inc. -- civil judicial

Headland, ALa (MD Ala --RCRA, Contempt for Violating Terms of Existing Consent Decree -- EPA Region IV)

ALASKA

U.S. v. Alaska Pulp Corp. -- civil judicial

Rowan Bay, Alaska (D AK -- RCRA -- EPA Region X)

CALIFORNIA

U.S. v. Peter Gull and N.L. Industries, B & H Battery Superfund Site -- civil judicial
Norco, Calif. (S.D. Calif. -- CERCLA)

CONNECTICUT

U.S. v. Raymark Industries, Inc. -- civil judicial
Stratford, CT (D CT -- RCRA -- EPA Region I)

U.S. v. Occidental Chemical Corp. -- civil judicial
New Castle County, Del. (D. Del -- RCRA)

ILLINOIS

U.S. v. NL Industries, NL Industries Taracorp Superfund Site -- civil judicial
Granite City, IL (SD IL -- CERCLA)

U.S. v. Taracorp Industries, Inc. -- civil judicial
Granite City, Illinois (SD IL -- CWA, RCRA)

INDIANA

U.S. v. Group Dekko International, Inc. -- civil judicial
Kendallville, IN (ND IN -- RCRA)

U.S. v. Dana Corporation -- civil judicial
Richmond, IN (SD IN -- RCRA)

IOWA

American National Can -- administrative
Des Moines, Iowa (RCRA -- Consent Order)

Kolona Battery -- administrative
Kolona, Iowa (RCRA -- EPA Region VII seeks a penalty of $331,418 in this case)

LOUISIANA

U.S. v. Ethyl Corporation -- civil judicial
Baton Rouge, LA (MD LA -- CWA)

MICHIGAN

Great Lakes Casting Corporation -- administrative
Ludington, MI (RCRA -- EPA seeks penalty of $615,450)

U.S. v. Johnson Iron Industries, Inc. and Donald A. Johnson -- civil judicial
Charlotte, MI (WD MI -- RCRA)

U.S. v. Kurdziel Iron Industries, Inc. -- civil judicial
Rothbury, MI (WD MI -- RCRA)

MINNESOTA

U.S. v. Farmers Union Central Exchange, Inc. -- civil judicial
Minneapolis, Minn (D Minn -- Clean Air Act)

MISSOURI

U.S. v. Gates Energy Products, Inc. -- civil judicial
Warrensburg, MO (WD MO -- Clean Air Act -- Consent Decree, settlement provides for $200,000 penalty and supplemental environmental projects)

MONTANA

ASARCO/East Helena Superfund Site -- administrative
East Helena, Mon (CERCLA -- Consent order for removal of lead contaminated soil from schools, daycare centers, yards, parks, playgrounds and unpaved streets and alleys)

NEW JERSEY

U.S. v. E.I. Du Pont De Nemours & Co. -- civil judicial
Carteret, N.J. (D. N.J. -- Clean Ai. Act -- $875,000 settlement reached July 1, 1991)

OHIO

U.S. v. EBCO Manufacturing Co. Inc. -- civil judicial
Columbus, Ohio (SD Ohio -- Safe Drinking Water Act -- settlement requires penalty of $220,000 -- highest penalty under SDWA to date -- and notification of all customers of a free repair program)

U.S. v. Scio Pottery Company, Inc. -- civil judicial
Scio, Ohio (SD Ohio -- RCRA)

United Scrap Lead Superfund Site -- civil judicial
Troy, Ohio (SD Ohio -- CERCLA)

OREGON

U.S. v. Environmental Pacific Corp. -- civil judicial
Amity, Yamhill County, OR (D OR -- RCRA)

PENNSYLVANIA

Industrial Ceramics, Inc. -- administrative
Derry, PA (EPCRA Sec. 313 -- $85,000)

Marcus Hook Processing, Inc., East 10th Street Site -- administrative
Marcus Hook, PA (Order on Consent requiring RCRA Facility Investigation)

U.S. v. Hebelka -- civil judicial
Hebelka Auto Salvage Yard Superfund Site
Weisenburg, Township, PA (ED PA -- CERCLA)

U.S. v. Berks Associates, Inc., Douglassville Disposal Superfund Site -- civil judicial
Douglassville, PA (ED PA -- CERCLA)

U.S. v. Lord Corp., Lord-Shope Landfill Superfund Site -- civil judicial
Girard Township, PA (WD PA -- CERCLA)

U.S. v. PPG Industries Inc. and Aluminum Co. of America, -- civil judicial
Hranica Landfill Superfund Site
Buffalo Township, PA (WD PA -- Consent Decree under CERCLA) 33

PUERTO RICO

U.S. v. Caribe Tuna, Inc. -- civil judicial
Ponce, Puerto Rico (D.PR -- CWA)

TEXAS

Tyler Pipe Industries, Inc. -- administrative
Tyler Texas (CWA -- EPA is seeking $125,000 penalty)

U.S. v. GNB, Inc. -- civil judicial
Farmers Branch, TX (ND TX -- RCRA)

VIRGINIA

Amoco Oil Co., Yorktown Refinery -- administrative
Yorktown, VA (RCRA -- EPA seeks $7 million penalties)

AT&T Richmond Works -- administrative
Richmond, VA (RCRA -- EPA seeks more than $1 million in penalties)

Lynchburg Foundry Co., Radford Facility and Archer Creek Facility -- administrative
Lynchburg, VA (RCRA -- EPA seeks $1,385,000 in penalties)

WEST VIRGINIA

Roessing Bronze Co., Mars, PA (EPCRA Sec. 313 -- $94,000) -- administrative
Dailey, WVa (EPCRA Sec. 313 -- $89,000)

Corning, Inc. -- administrative
Paden City WVa (RCRA -- EPA seeks penalty of $100,000)

WYOMING

U.S. v. Smith, d/b/a Torrington Hide & Metal,
and Union Pacific Land Resources Corp. -- civil judicial
Goshen County, Wyo (D Wyo -- RCRA, CERCLA)

SUMMARY OF CLAIMS ASSERTED IN LEAD INITIATIVE CASES FILED IN COURT

Region 1 (New England)

UNITED STATES v. RAYMARK INDUSTRIES, INC. (D. Conn.)(RCRA) is an enforcement action focused on a former automobile brake manufacturing facility in Stratford, Connecticut. Dust contaminated with lead and asbestos were disposed onto the ground at this facility during operations. The United States seeks an injunction directing Raymark, the facility owner and operator, to comply with EPA administrative orders to thoroughly investigate and characterize the contamination at the facility and to undertake appropriate corrective action to remedy the contamination.

Region 2 (New York, New Jersey, Puerto Rico)

UNITED STATES v. CARIBE TUNA, INC. (D. P.R.) (Clean Water Act) is an enforcement action directed at this Puerto Rico tuna fish processing and canning facility operated by a wholly owned subsidiary of Mitsubishi Foods. Caribe is charged with violations of a permit issued by EPA limiting discharges of several pollutants, including lead, into Ponce Bay in Puerto Rico. According to the complaint, between December 1986 and July 1990, Caribe exceeded its permit limits for all pollutants combined at least 332 times, and its specific permit limits for lead at least 37 times. The United States seeks an injunction requiring Caribe to comply with its permit and civil penalties.

Region 3 (Mid Atlantic)

UNITED STATES v. BERKS ASSOCIATES, INC. ET AL. (E.D. Pa.)(CERCLA) is a Superfund enforcement action seeking the recovery of costs incurred by the United States at the Douglasville Disposal Site in southeastern Pennsylvania near Pottstown. The 50 acre Douglasville site is a former waste oil recycling facility, lying along the banks of a designated scenic stretch of the Schuylkill River, which was operated by Berks for over 40 years from 1941 to 1985. During the facility's operation, several million gallons of waste oil sludge with high concentrations of lead, PCBs, and volatile organic compounds were dumped into lagoons at the site. Beyond Berks, the complaint also names three other operators of the site and 27 "generator" defendants who allegedly arranged for disposal of their waste oil at the site. The action seeks

recovery of approximately $5 million spent to date and a declaration that the defendants are liable for future response costs for excavation and incineration of the contamination.

UNITED STATES v. ESTATE OF LOVIE M. HEBELKA ET AL. (E.D. Pa.)(CERCLA) is an enforcement action alleging Superfund liability for the partial cleanup of an automobile salvage yard near Fogelsville in Lehigh County, Pennsylvania. Operations at the Hebelka Auto Salvage Yard from 1958 to 1979 resulted in the accumulation of approximately 1,000 cubic yards of cracked lead battery casings and the resulting contamination of almost 7,000 cubic yards of soil, primarily with lead. The action seeks recovery of EPA's past costs, a declaration of the defendants' liability for all future response costs, and an injunction requiring the defendants to grant access to the United States necessary to conduct further response actions.

UNITED STATES v. PPG INDUSTRIES, INC., AND ALUMINUM COMPANY OF AMERICA (W.D. Pa.)(CERCLA) is a settlement of Superfund liability for remedial action at the Hranica Landfill Site located 21 miles north of Pittsburgh in Buffalo Township, Butler County, Pennsylvania. The site was used as a landfill, drum disposal, and incineration facility from 1966 to 1974. The parties to the settlement are two major generators who arranged for disposal of wastes contaminated with lead, chromium, cadmium, and PCBs at the site. The settlement provides for the payment of nearly 100% of the past and all future response costs at the site, and it requires the defendants to construct a protective cap over lead contaminated soils.

UNITED STATES V. LORD CORPORATION (W.D. Pa.)(CERCLA) is a settlement of Superfund liability for remedial action and past and future costs at the Lord/Shope Landfill in Girard Township in Erie County, Pennsylvania. From the mid 1950's until 1979, industrial wastes, including adhesives, solvents, acids, and caustic solutions were disposed of at the site. Investigation of the landfill also revealed lead contamination. Lord Corporation is the current owner of the site and has agreed to pay essentially all past costs, 100% of future response costs, and to perform the entire remedy at the site entailing a groundwater extraction and treatment program with a lead component and vapor stripping to remove volatile organics from the soil.

Region 4 (Southeast)

UNITED STATES v. AMERICAN BRASS, INC. (M.D. Ala.)(RCRA) is an action to enforce an existing judicial consent decree concerning operations at American Brass, Inc.'s secondary brass smelter in Headland, Alabama. The waste material generated from the smelting of scrap metal at this facility produces a slag that is highly contaminated with lead. The instant action alleges that American Brass failed to comply with the consent decree by not properly managing or closing down its approximately 10,000 cubic yard slag pile and by placing newly generated slag on the pile. This action seeks an order from the court enforcing the terms of the existing consent decree as well as an injunction and penalties arising out of American Brass' continued land disposal of lead-contaminated slag.

Region 5 (Midwest)

UNITED STATES v. ATLAS LEDERER COMPANY, ET AL. (S.D. Ohio)(CERCLA) is an enforcement action to recover the costs incurred by EPA in cleaning up the United Scrap Lead battery site in Troy, Ohio. The defendants are parties who allegedly arranged for the disposal of waste batteries containing lead at the site. United Scrap Lead was a major scrap site which had processed millions of pounds of batteries. To date, EPA has spent approximately $1.2 million at the site.

UNITED STATES V. FARMERS UNION CENTRAL EXCHANGE ("CENEX") (D. Minn.)(Clean Air Act) is an enforcement action under the Clean Air Act, and involves EPA's lead phasedown for gasoline in motor vehicles. The complaint alleges violations of the lead credit banking program that existed through 1987 as part of EPA's lead phasedown program. Under that program, refiners that used less lead than allowed could bank and sell the excess. The complaint asserts that Cenex which operates a refinery in Laurel, Montana violated the lead phasedown banking regulations by selling more than 20 million grams of lead credits it did not have, and the complaint seeks civil penalties.

UNITED STATES v. EBCO MANUFACTURING COMPANY, INC. (S.D. Ohio) (Safe Drinking Water Act) is an enforcement action seeking civil penalties from a company which manufactured and sold certain water coolers which contained lead valves that came into contact with drinking water, causing excessive lead levels in water intended for human consumption. The complaint alleges that EBCO sold at least 11,388 of those water coolers, during the period

from November 1, 1988 through February 15, 1990. After determining the source of lead contamination in its water coolers, EBCO voluntarily initiated a program to replace the lead valves in the affected water coolers at its own expense. To date, EBCO has replaced the lead valves in approximately 8,000 of the water coolers made by the company. The complaint is filed under the Lead Contamination Control Act of 1990, which amended the Safe Drinking Water Act and prohibited the sale of water coolers containing lead parts above prescribed concentrations. Pursuant to a consent decree to be filed with the court together with the complaint, EBCO has agreed to pay a civil penalty of $220,000, and the company has agreed to continue its program to recall and replace lead valves at EBCO's expense.

UNITED STATES v. DONALD A. JOHNSON (W.D. Mi.)(RCRA) is an enforcement action relating to the Johnson Iron foundry in Charlotte, Michigan. From 1947 to 1986 sludge, slag, and other wastes containing hazardous amounts of lead and other metals were disposed in surface impoundments at the foundry which is located adjacent to residential neighborhoods in Charlotte. The volume of hazardous waste at the site is approximately 150,000 to 200,000 cubic yards, and it is likely that the groundwater which serves as a local drinking water supply has been contaminated. The defendant has previously entered into a consent agreement with EPA with which he has failed to comply, so the instant action seeks civil penalties and a court injunction requiring him to comply with the earlier agreement.

UNITED STATES V. DANA CORPORATION (S.D. Ind.)(RCRA) is an enforcement action concerning Dana's Perfect Circle Product Division's foundry in Richmond, Indiana. The foundry operations generate waste water and sludge which contain high concentrations of lead. The company improperly disposed of the sludge onto the surface at the foundry in violation of the land disposal restrictions under RCRA, and the company's settling basin where wastewater is managed does not meet RCRA's minimum technology requirements for lined impoundments, groundwater monitoring, and leak detection. The action seeks an injunction requiring Dana to stop disposing its lead bearing waste onto the ground and penalties for its past disposals and its violations of the minimum technology requirements.

UNITED STATES v. GROUP DEKKO INTERNATIONAL, INC. (N.D. Indiana)(RCRA) is an enforcement action against Group Dekko for unlawful land disposal of toxic, lead-bearing waste in an uncontrolled pile that may contain as much as 60 million pounds of waste. The waste pile was generated at a copper recovery facility near Kendallville, Indiana, that is part of Group

Dekko's Reclaimers operating division. The complaint also addresses an unlawful shipment of waste as well as numerous testing and recordkeeping violations at Reclaimers. The complaint seeks an injunction requiring Group Dekko to cease using the waste pile and to maintain testing and records at the site as required by RCRA. The complaint also seeks civil penalties.

UNITED STATES v. KURDZIEL INDUSTRIES, INC., formerly Kurdziel Iron Industries, Inc. (W.D. Mi.)(RCRA), is an enforcement action concerning Kurdziel's grey iron foundry located in Rothbury, Michigan. Wastewater and waste by-products from operations containing hazardous amounts of lead had been discharged into settling ponds and other areas at the foundry for years. The United States has filed a motion to hold Kurdziel in contempt of court for numerous violations of a Consent Decree it had agreed to in 1987, including failure to abide by the Decree's requirements concerning groundwater monitoring, financial assurance for closure of the contaminated areas, and liability insurance in case of an accident involving the contaminated areas. The action seeks an injunction requiring compliance and payment of stipulated penalties by Kurdziel.

UNITED STATES V. THE SCIO POTTERY CO. (S.D. Ohio)(RCRA) is an enforcement action regarding Scio's dinnerware and whiteware manufacturing facility in Scio, Ohio. Wastewater from operations containing hazardous amounts of lead discharged into a surface impoundment. In 1987 Scio entered into a consent agreement with EPA requiring compliance with a number of RCRA requirements for testing, monitoring, and managing the hazardous waste properly. Because Scio has failed to comply with that agreement, the instant action seeks civil penalties and an injunction requiring Scio to close the surface impoundment properly and to cease all improper storage of hazardous waste at the facility.

UNITED STATES V. NL INDUSTRIES, ET AL. (S.D.Ill.)(CERCLA) is an enforcement action against former and current owners and operators of the NL Industries/Taracorp Site, Granite City, Illinois and against entities that contributed hazardous substances to the Site. The Site, which includes related areas of contamination in the community, was a former lead smelting and lead battery site. There are very high levels of lead contamination in the soils at and around the Site, and in the nearby residential community. The complaint alleges that defendants failed to comply with an administrative order issued by EPA pursuant to Section 106 of CERCLA requiring defendants to undertake remedial actions at the Site. The complaint seeks compliance with the cleanup order at the site and statutory

penalties and punitive damages for defendants' failure to comply with the order. The complaint also seeks the recovery of costs incurred by the United States in responding to the release or threatened release of hazardous substances from the site.

UNITED STATES v. TARACORP INDUSTRIES, INC. (S.D. Ill.)(Clean Water Act and RCRA) is an enforcement action under RCRA against the current owner of the same facility that is the subject of the NL Industries action. The complaint also seeks an injunction and civil penalties against Taracorp for violations of the Clean Water Act for discharging lead and antimony in excess of the national pretreatment standards governing discharges of these pollutants. These excessive discharges pass through the Granite City Regional Wastewater Treatment Plant untreated and into the Chain of Rocks Canal and the Mississippi River. The complaint also seeks an injunction and civil penalties against Taracorp under RCRA for failing to demonstrate financial responsibility for bodily injury and property damage to third parties that may be caused by the waste pile located on the Site.

Region 6 (Midsouth)

UNITED STATES v. GNB INCORPORATED (N.D. Tex.)(RCRA) is an action for injunctive relief and civil penalties concerning an automotive lead-acid battery manufacturing plant in Farmer's Branch, Texas. The treatment and disposal of lead-contaminated waste water from operations at the plant led to a 1985 administrative settlement with EPA and the State of Texas Water Commission. The instant action seeks an injunction to require GNB to comply with the terms of the agreement because it has failed to maintain an adequate groundwater monitoring network as required by the settlement. The action also seeks civil penalties for noncompliance with the agreement.

UNITED STATES V. ETHYL CORPORATION (M.D. La.)(Clean Water Act) is an enforcement action concerning Ethyl's lead recovery and organic chemical manufacturing facility in Baton Rouge, Louisiana. The plant discharges wastewater into the Monte Sano Bayou and the Mississippi River under a permit issued by EPA which sets limits on, among other things, permissible levels of lead in the effluent. Since 1988, Ethyl consistently violated its permit limits for lead. The company and the United States have reached an agreement in principle requiring payment of a civil penalty of $750,000 and a complete environmental audit of water discharges from the plant and its wastewater treatment system. The agreement will be reduced to a consent decree which is subject to review and approval by both EPA the Department of Justice.

Region 7 (Central)

UNITED STATES V. GATES ENERGY PRODUCTS, INC. (W.D.Mo.)(Clean Air Act) is am enforcement action concerning Gates' facility in Warrensburg, Missouri where the company manufactures sealed lead-acid batteries. Regulations under the Clean Air Act require owner/operators of lead acid battery manufacturing plants to conduct performance tests of their plants no later than 6 months after startup to determine if they are complying with air emission limits for lead. Gates failed to test a number of its operations, and it tested others only long after the 6 month due date. These failures to test made it impossible to determine whether there were violations of lead air emission standards at the plant. A proposed consent decree resolving this action is being filed with the complaint. The settlement not only requires payment of a $200,000 civil penalty and compliance with the air lead testing regulations, but also a complete environmental compliance and management audit at its Warrensbury and Gainesville, Florida plants, a lead oxide waste minimization program at its Warrensburg plant, and a pollution prevention program.

Region 8 (Rocky Mountains)

UNITED STATES V. STANLEY SMITH, ET AL. (D.Wy)(RCRA/CERCLA) is an enforcement action concerning lead battery breaking operations performed by Stanley and Jean Smith, doing business as Torrington Hide and Metal. The battery breaking operations occurred near Torrington in Goshen County, Wyoming. Spent wet-cell batteries were cracked on two parcels of property at this site, the sulfuric acid from the batteries was drained onto the ground, and the lead was stored in piles until it was later shipped offsite. The surfaces of the two parcels are now heavily contaminated with lead, and present risks to individuals, particularly children, who live in the adjacent residential area. The Smiths are owners of one of the parcels where the battery-breaking operation was performed. Union Pacific Land Resources owns most of the other parcel, which it leased to the Smiths. The action seeks injunctive relief in the form of a complete site investigation and cleanup from the Smiths and Union Pacific, as well as penalties from the Smiths.

Region 9 (Far West)

UNITED STATES v. PETER GULL ET AL. (C.D. Cal.)(CERCLA) concerns a defunct lead-acid battery reclamation operation on residential property in Norco, California. From 1962 until at least 1977, as many as 1,000 batteries a day were broken open at the facility and their contents dumped on the ground. The site is in a mixed residential and open livestock area with several residences nearby and a public school a quarter of a mile away. The high lead contamination in the soils presented risks due to blowing dust and incidental ingestion. EPA performed the remedy at the facility in 1989, and this complaint seeks reimbursement of EPA's cleanup costs from Gull, the current owner of the site, and NL Industries, which transported batteries to the site for reclamation. The complaint also seeks penalties and punitive damages from NL Industries due to its failure to perform the cleanup in response to an EPA administrative order.

Region 10 (Pacific Northwest)

UNITED STATES v. ALASKA PULP CORPORATION (D.Alaska)(RCRA) is an enforcement action against Alaska Pulp for improper handling of lead-contaminated hazardous wastes at its logging camp in Rowan Bay, Alaska. The complaint charges that Alaska Pulp improperly disposed of lead-acid batteries in a landfill which was not permitted under RCRA. In addition, the logging camp is alleged to be engaged in the generation and treatment of hazardous wastes without a permit. The complaint seeks civil penalties and an injunction against further violations at this facility.

UNITED STATES V. ENVIRONMENTAL PACIFIC CORPORATION (D.Ore.)(RCRA) is an enforcement action concerning EPC's hazardous waste management facility in Amity, Oregon, approximately 42 miles southwest of Portland. As part of its operations EPC has received lead acid and alkaline batteries, which it allegedly drains prior to shipment to recyclers or sends undrained to recyclers. During an inspection of Environmental Pacific's facility on February 4, 1991 conducted by the Environmental Protection Agency and the Oregon Department of Environmental Quality, hazardous constituents, including lead, cadmium, chromium, barium, mercury, and silver, were found in soil and surface water at the facility. Lead and other hazardous constituents were also found to have migrated off of Environmental Pacific's property and were detected in soil and surface waters off-site. The action seeks an injunction requiring EPC to clean up the lead and other hazardous

constituents contaminating its facility and to study all areas where releases might have occurred.

EPA ENFORCEMENT INITIATIVE TO REDUCE LEAD CONTAMINATION

Below is a table of administrative cases comprising the EPA Initiative to Reduce Lead Contamination. The cases are listed by state.

IOWA

American National Can -- administrative
Des Moines, Iowa (RCRA -- Region 7 Consent Order)

Kolona Battery -- administrative
Kolona, Iowa (RCRA -- EPA Region 7 seeks $331,418 in penalties)

MICHIGAN

Great Lakes Casting Corporation -- administrative
Ludington, MI (RCRA -- EPA Region 5 seeks $615,450 penalties)

MONTANA

ASARCO/East Helena Superfund Site -- administrative
East Helena, Mon (CERCLA -- Region 8 Consent order for removal of lead contaminated soil from schools, daycare centers, yards, parks, playgrounds and unpaved streets and alleys)

PENNSYLVANIA

Industrial Ceramics, Inc. -- administrative
Derry, PA (EPCRA Sec. 313 -- EPA Region 3 seeks $102,000 in penalties)

Marcus Hook Processing, Inc., East 10th Street Site -- administrative
Marcus Hook, PA (Region 3 Order on Consent requiring RCRA Facility Investigation)

TEXAS

Tyler Pipe Industries, Inc. -- administrative
Tyler Texas (CWA -- EPA Region 6 seeks $125,000 in penalties)

VIRGINIA

Amoco Oil Co., Yorktown Refinery -- administrative
Yorktown, VA (RCRA -- Region 3)

AT&T Richmond Works -- administrative
Richmond, VA (RCRA -- Region 3)

Lynchburg Foundry Co., Radford Facility and Archer Creek Facility -- administrative
Lynchburg, VA (RCRA -- Region 3 seeks $1,509,000 in penalties)

WEST VIRGINIA

Roessing Bronze Co., Mars, PA (EPCRA Sec. 313) -- administrative
Dailey, WVa (EPCRA Sec. 313 Region 3 seeks $134,000 in penalties)

Corning, Inc. -- administrative
Paden City WVa (RCRA -- Region 3 seeks $184,469 in penalties)

IOWA

Administrative:

American National Can, Des Moines, Iowa (RCRA -- Consent Order)

This company operates a packaging plant which used laminating and printing processes. Wastes include Pb-contaminated ink sludges. EPA is negotiating a RCRA 3008(h) consent Order. A Consent Order or Unilateral Order should be issued by July 31.

IOWA

Administrative:

Kolona Battery, Kolona, Iowa (RCRA -- EPA Region VII seeks a penalty of $331,418 in this case)

Kolona Battery is a lead battery manufacturer in Kolona, Iowa. Initial soil sample results of a recent RCRCA inspection revealed lead contamination in the soil. On July 31, 1991, EPA will issue a RCRA Section 3008(a) Adminstrative Order against Kolona Battery. EPA is seeking a penalty of $331,418 in this case.

MICHIGAN

Administrative:

Great Lakes Casting Corporation, Ludington, MI (RCRA -- EPA seeks penalty of $615,450)

Great Lakes Corporation (Great Lakes) located in Ludington, Michigan, produces grey iron castings for the refrigeration automotive, farm machinery and other industries. Great Lakes generates and stores hazardous wastes in three surface impoundments at its Michigan plant.

These wastes have been identified and listed as hazardous wastes under Section 3001 of the Resource Conservation and Recovery Act (RCRA). Between September 25, 1991, and April 29, 1991, Great Lakes allegedly operated surface impoundments without a permit and failed to obtain interim status by filing a permit application with EPA. On April 29, 1991, Great Lakes filed the required permit application.

EPA is filing an Administrative Complaint and Compliance Order in this case seeking a penalty of $615,450 and compliance with all applicable RCRA requirements.

MONTANA

Administrative:

ASARCO/East Helena Superfund Site, East Helena, Mon (CERCLA -- Consent order for removal of lead contaminated soil from schools, daycare centers, yards, parks, playgrounds and unpaved streets and alleys)

EPA entered into an Administrative Order on Consent with ASARCO, the potentially responsible party (PRP) at this Site on July 19, 1991. Under the Order, ASARCO is removing lead contaminated soil from schools, daycare centers, yards, parks, playgrounds and unpaved streets and alleys.

The ASARCO/East Helena Superfund Site occupies eighty acres and is located in East Helena, Montana. ASARCO Incorporated (Asarco) owns and operates a primary lead smelter in East Helena, Montana. During the 102 years of operation of the smelter, both stack and fugitive emissions have been released into the Helena Valley. As an operating smelter, the plant's air emissions are undergoing air quality State Implementation Plan (SIP) review and revision by the state of Montana. The smelter is about one quarter mile from residential areas of East Helena. About half of the yards, playgrounds and parks in East Helena have more than 1,000 parts per million (ppm) lead in their surface soils. Natural background soils in the area contain 12-20 ppm lead.

The site has three separate operable units (OUs). The first OU was addressed in July 1990. This, the second operable unit, will address the removal of lead the contaminated soil from residential areas such as yards, parks, playgrounds, and unpaved streets and alleys. EPA, in conjunction with ASARCO, and the Montana Department of Health and Environmental Sciences believe that the removal of highly contaminated lead soils is the most effective way to lower exposure to lead in East Helena. ASARCO will conduct its primary removal action on July 31, 1991. The action is expected to take several years to complete.

INDUSTRIAL CERAMICS, INC.

EPA issued an Administrative Complaint today against Industrial Ceramics, Inc., for violations, including lead-related violations, of the Emergency Planning and Community Right-to-Know ACT (EPCRA), at its Porcelain Electrical Supplies facility located in Derry, Pennsylvania. The complaint seeks a total penalty of $102,000, of which $51,000 is being assessed for lead violations.

The lead-related violations include failure to report uses, releases, and off-site transfers of lead for 1987, 1988, and 1989, as required under Section 313 of EPCRA. Based on a recent EPA onsite inspection, the facility was found to have exceeded the threshold-processing levels for reporting in all three years. The EPA threshold levels for reporting the amount of lead used in processing are 75,000 pounds for 1987, 50,000 pounds for 1988, and 25,000 pounds for 1989.

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Region III Public Affairs:
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MARCUS HOOK PROCESSING INC.

EPA entered into an Administrative Consent Order today with Marcus Hook Processing Inc. (MHPI) to investigate hazardous waste contamination, including lead contamination, at its facility located within the East 10th Street Superfund Removal Site in Marcus Hook, Pennsylvania. The Order was issued under the authority of both the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act, as amended (CERCLA).

Under the Order, MHPI is required to conduct an investigation to determine the nature and extent of contamination, including lead contamination, at or emanating from its facility. Based on the results of the investigation, MHPI would then be required to develop and evaluate various cleanup alternatives if needed. Lead contamination was discovered at the facility when MHPI's predecessor analyzed soil samples taken from the area where two holding lagoons, previously used by a prior owner to dispose of sludge, are located.

In addition, sampling of the onsite groundwater monitoring wells revealed elevated levels of tetrahydrofuran, lead and other hazardous constituents. Although the facility ceased active operations in 1984, previous operations included neutralization, precipitation and filtration of industrial wastewaters. MHPI has agreed to develop a Facility Waste Minimization Plan once facility operations commence again.

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TEXAS

Administrative:

Tyler Pipe Industries, Inc., Tyler Texas (CWA -- EPA is seeking $125,000 penalty)

Tyler Pipe Industries, Inc., owns and operates a plant in Tyler, Texas. Tyler produces grey ıst pipe and fittings from scrap metal at this plant. EPA issues a Show Cause of Order to Tyler ıpe, Inc. on April 2, 1991, for alleged violations of Section 301(a) of the Clean Water Act, ısulting from Tyler's discharging lead and zinc in excess of the NPDES permit effluent limitations. he alleged violations occurred in June, July, October, November, and December of 1990. EPA seeking the maximum statutory penalty in this case of $125,000 for the alleged violations.

AMOCO OIL CO.

EPA issued an Administrative Complaint today to Amoco Oil Company, Yorktown Refinery, a petroleum refinery located in Yorktown, Virginia for violations of the Resource Conservation and Recovery Act (RCRA), including lead-related violations.

In addition to a penalty, the Complaint seeks Amoco's cessation of the improper storage, and the closure of all unauthorized units. The lead violations consist of storage and management, without a RCRA permit, of lead-containing hazardous wastes in containers, equalization basins and storm water retention ponds. Lead contamination may pose a threat by entering the groundwater and migrating off-site. Additional RCRA violations include improper management of hazardous waste containers and failure to develop a RCRA contingency plan for emergency situations.

Region III Program Contacts:
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Region III Attorney:
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Region III Public Affairs:
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AT&T RICHMOND WORKS

EPA issued an Administrative Complaint today to AT&T Company for violations of the Resource Conservation and Recovery Act (RCRA), including lead violations, at its Richmond Works, a printed circuit board manufacturer located in Richmond, Virginia.

In addition to a penalty, the Complaint also seeks AT&T's closure of the unpermitted storage units, and further management of hazardous waste in accordance with state and federal RCRA requirements.

The lead violations include use of a transporter without a State permit, storage of lead-containing hazardous waste without a permit, shipping waste without a manifest, failure to keep containers closed and other container management violations, and deficiencies in the RCRA Waste Analysis Plan.

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LYNCHBURG FOUNDRY COMPANY

EPA issued an Administrative Complaint today to the Lynchburg Foundry Company for violations, including lead-related violations, of the Resource Conservation and Recovery Act (RCRA) at its Radford, Virginia, and Archer Creek, Virginia, smelting and casting facilities. In addition to penalties, the Complaint seeks Lynchburg Foundry's closure of its unauthorized storage and disposal units in accordance with RCRA requirements.

The lead violations consist of treating and storing lead-containing hazardous waste on the ground in a waste pile. This could pose a threat to human health and the environment by contaminating the groundwater and migrating off-site.

Additional RCRA violations include improper hazardous-waste management practices and storage of waste without a permit.

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CORNING, INC.

EPA issued an Administrative Complaint today against Corning, Inc.'s glass-works facility located in Paden City, West Virginia, for violations, including lead-related violations, of the Resource Conservation and Recovery Act (RCRA). Penalties are being sought against Corning, Inc. for the violations.

Corning manufactured glass-ceramic tableware at the facility which ceased operations in September 1989. The lead-related violations are for storage and treatment of lead-containing hazardous wastes without a permit.

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ROESSING BRONZE COMPANY

EPA issued an Administrative Complaint today against Roessing Bronze Company regarding violations, including lead-related violations, of the Emergency Planning and Community Right-to-Know Act (EPCRA), at their Concast Metal Products Division's cast bronze products facility located in Dailey, West Virginia. The Complaint proposes a total penalty of $134,000 against the company, of which $59,000 is being assessed for lead violations.

The lead-related violations include failure to report the use, releases, and off-site transfers of lead in the production of cast bronze products for 1987, 1988, and 1989, as required under Section 313 of EPCRA. Based on a recent EPA onsite inspection, the facility was found to have exceeded the threshold-processing levels for reporting in all three years. The EPA threshold levels for reporting the amount of lead used in processing are 75,000 pounds for 1987, 50,000 pounds for 1988, and 25,000 pounds for 1989.

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TAB 4

OFFICE OF ENFORCEMENT LEAD INITIATIVE QUESTIONS AND ANSWERS

QUESTION #1

Q. HOW WERE THE COMPANIES WHO WERE NAMED IN THE OFFICE OF ENFORCEMENT'S LEAD INITIATIVE SELECTED?

A. The Twenty three civil judicial cases were selected by EPA and the Department of Justice through their existing screening and review procedures, and through a special process et up by EPA and DOJ to determine which cases might be appropriate for judicial action. EPA elected the 12 administrative cases from the existing administrative caseload.

QUESTION #2

Q. HOW DID YOU DECIDE WHICH CASES TO BRING ADMINISTRATIVELY AND WHICH TO BRING JUDICIALLY?

A. Generally, candidates for judicial action include cases against particularly egregious or repeat violators or violators of administrative agreements, cases that seek particularly large penalties, cases where court-supervised injunctive relief is needed, cases that may establish useful legal precedents interpreting key aspects of the regulations or statute, and cases with a multi-medi enforcement approach. This enforcement initiative includes case fitting these criteria.

The decision to bring a case administratively or judicially rests initially in EPA's regional offices. The Regional Offices have established screening process to help make such determination. Once EPA refers cases to the Department of Justice, the assistant attorney general must decide whether to approve the case for filing in court.

QUESTION #3

Q. WHAT IS THE DIFFERENCE BETWEEN ADMINISTRATIVE ENFORCEMENT CASES AND JUDICIAL ENFORCEMENT CASES?

A. Administrative enforcement cases are issued directly by EPA (or by states using their own enforcement authorities) to the facility, without the involvement of a state or federal court. Respondents in administrative enforcement case have several levels of administrative review available should they wish to contest the administrative complaint issued

against them. In most instances, respondents can ask for an "informal review of their case, usually with the issuing official in the Regional Office. Should they request further review, a formal hearing, open to the public, before an administrative law judge (ALJ) is available. Finally, a direct appeal to the EPA Administrator's office is also available.

EPA's judicial enforcement actions are lawsuits in federal court, involving all of the trial and appellate procedures normally associated with civil litigation in federal court. In these instances, federal judges preside over the trial or appeal of the case. Although both administrative and judicial cases generally involve the assessment and collection of penalties, civil judicial penalties are usually higher than penalties obtained in administrative cases. In addition, violation of a judicial decree could constitute contempt of court, subjecting the violator to civil or criminal sanctions. This serves as a significant deterrent to violations of a court order.

QUESTION #4

Q. WHY FILE ADMINISTRATIVE AND JUDICIAL CASES TOGETHER IN THIS ENFORCEMENT INITIATIVE?

A. Both administrative and judicial cases were filed in order to send a very strong and unmistakable message that the government is aggressively committed to enforcing existing regulations involving lead.

The inclusion of both administrative and judicial cases reflects the government's willingness to use a variety of enforcement mechanisms to ensure compliance with existing regulations. A strong enforcement program includes a balanced mix of judicial and administrative cases. This combination of administrative and judicial enforcement also maximizes the deterrent impact on the regulated community.

QUESTION #5

Q. WHY IS LEAD-ACID BATTERY RECYCLING DESIRABLE?

A. The sheer volume of lead consumed in lead-acid batteries makes recycling important. In 1989, 80% of total domestic lead consumption (approximately 800,000 metric tons) went into lead-acid batteries. Given lead's toxicity and its indestructible nature once it enters the environment, it is important to recycle this significant quantity of lead consumed each year rather than introducing that lead into the environment.

QUESTION #6

Q. **IF THE LEAD-ACID BATTERY RECYCLING RATE IS OVER 90%, IS IT NECESSARY FOR THE FEDERAL GOVERNMENT TO DEVELOP REGULATIONS TO MANDATE BATTERY RECYCLING?**

A. The battery recycling rate is high today, but has historically fluctuated based on the price of lead and the impact of federal regulations on secondary smelting. In the early 1980's, lead-acid battery recycling reached a low of 61% when the price of lead dropped significantly and a number of secondary smelters chose to close rather than meet federal regulations. This meant that about 25 million batteries with over 200,000 metric tons of lead were not recovered in one year alone. Even at a 90% recycling rate today, some 80,000 metric tons of lead may be entering the environment each year. Accordingly, the Agency is considering regulatory options under TSCA §6 to maximize lead-acid battery recycling.

QUESTION #7

Q. **ARE SMELTERS IN COMPLIANCE WITH FEDERAL REGULATIONS GOVERNING AIR QUALITY?**

A. As of October 1990, 22 of 29 smelters in the United States were found to be in compliance with the National Ambient Air Quality Standards (NAAQS). EPA is however considering a revision of the lead NAAQS to further reduce potential environmental risks from lead smelting.

QUESTION #8

Q. **HOW IS EPA PLANNING TO PROMOTE LEAD-ACID BATTERY RECYCLING?**

A. EPA's Office of Solid Waste (OSW) is currently conducting an evaluation of the effectiveness of State lead-acid battery recycling programs. This study will provide useful information on the mandatory take-back model adopted by States. In addition, the Agency is considering an number of regulatory options under TSCA Section 6 foster the recycling of lead-acid batteries.

QUESTION #9

Q. **How does the Agency's Lead Strategy affect the recycling of lead-acid batteries?**

A. As an outgrowth of the Lead Strategy, a number of regulations have been identified which could affect the recycling of lead-acid batteries. These regulations are designed to minimize release of lead into the environment, and several are likely to require the smelting industry to employ costly control mechanisms to meet this goal.

However, the viability of the secondary smelting industry is essential to the continued availability of domestic recycling capability. The increased cost of pollution control could result in a significant part of this industry choosing to close rather than to install necessary equipment.

To avoid these effects, the group of regulations affecting battery recycling (and smelter operation) have been clustered so that they can be considered in a cohesive EPA plan to minimize lead releases and maximize battery recycling. such a cluster approach could also encourage the smelting industry to adopt new technologies that would provide more efficient and cost-effective means of complying with the set of regulations.

QUESTION #10

Q. Why has EPA decided to place such a high priority on reducing the amount of lead in the environment?

A. EPA is placing such a high priority on reducing the amount of lead in the environment because of its adverse health effects particularly in children and fetuses. Lead poisoning is the most common and socially devastating environmental disease of young children. The American Academy of Pediatrics calls it an epidemic.

QUESTION #11

Q. What are some of the most common effects of lead at high levels of exposure?

A. Effects of exposure to lead at high levels include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral, changes and hypertension.

QUESTION #12

Q. How many Superfund sites does today's enforcement action effect?

A. DOJ, on behalf of EPA, filed six complaints and lodged two consent decrees in various U.S. Federal District Courts. EPA is also taking administrative action at three sites. A total of nine Superfund Sites are being addressed today.

QUESTION #13

Q. How many sites on the Superfund National Priority Listing (NPL) have identified lead as a primary contaminant?

A. Over 400 NPL sites have listed lead as a contaminant of concern. However, in many cases lead is only one of several contaminants of concern. Other contaminants include Volatile Organic Compounds (VOCs), heavy metals, and PCBs.

QUESTION #14

Q. Why is EPA focusing only on a selected few lead sites with over 400 known sites in existence?

A. Of the 400+ Superfund sites, lead is only one of several known contaminants. For example, another contaminant like PCBs, may be causing the most risk and driving EPA's remedial action. Moreover, the Superfund program requires that today's actions conform to the Superfund prioritizing processes established by the NPL and the National Contingency Plan (NCP). Superfund must balance the health threats of lead contamination with other threats posed by other Superfund sites. Today's Superfund action focuses on cases of lead contamination, but it is a small part of the overall Superfund process.

Under Superfund , EPA has actions ongoing at many more sites, besides the nine involved in today's lead initiative, whether it is through direct action by EPA's Office of Emergency and Remedial Response or through potentially responsible (PRP) actions based on EPA's enforcement's efforts.

QUESTION #15

Q. In what ways will the Superfund actions taken today help reduce lead exposure?

A. Superfund's enforcement actions will increase attention on lead contaminated sites and will create the impetus for response actions by potentially responsible parties, thus reducing costs to the government. EPA's actions today will reduce the risk of exposure from lead contamination at Superfund Sites by requiring cleanup of soils and groundwater, and in some instances, require the soil cleanup of playgrounds, schools, day care centers, yards, and unpaved streets and alleys. (i.e. the ASARCO site in East Helena, Montana, and the NL site in Granite City, Illinois).

EPA has used Superfund monies in the past to cleanup lead contaminated sites because potentially responsible parties (PRPs) refused to take action. EPA, by filing these suits today, will show PRPs the government is serious about recovering our costs and enforcing any order issued to the PRPs. EPA's vigorous enforcement actions should make the PRPs less willing to be recalcitrant at future Superfund Sites resulting nationally in a more expeditious cleanups at less expense to the federal government.

QUESTION #16

Q. **What is Superfund's role in EPA's effort to focus on lead contamination and reduce its harmful impacts?**

A. Superfund's role in the lead initiative is to reduce any threats to human health or the environment caused by lead contamination at Superfund sites.

EPA has selected Superfund sites which were targeted for action under the Superfund program based on prior EPA response or enforcement actions. Those sites being highlighted today involve actions that will reduce lead contamination at Superfund sites either through EPA's response actions or the actions of potentially responsible parties.

QUESTION #17

Q. **Does this enforcement action only involve sites that are on the NPL?**

A. With the exception of one site (B & H Battery, Norco, CA.), all our judicial actions involve NPL sites. The three administrative actions do not involve sites on the NPL The non-NPL sites required immediate action based on threats to human health and have not yet undergone the Hazard Ranking Score (HRS)process that determines where (or whether) a site will be placed on the NPL.

Question #18

Q. **Will the cleanup actions affect the health and safety of nearby residents?**

A. Superfund cleanup actions, whether undertaken by EPA or the potentially responsible parties, are closely monitored, and prior to any response action (except in emergencies), an approved health and safety plan for the cleanup actions must be approved. Of course, the reason for the action in the first place is because of the danger to human health and the environment from the present contamination.

Question #19

Q. **What is EPA's, lead contamination cleanup level for soils and groundwater?**

A. EPA is currently revising its lead soil cleanup standards at Superfund sites. New guidance on this will be forthcoming and will probably be issued later this year (current standards are between 500ppm-1000ppm and are based on Center for Disease Control statements). EPA's groundwater standard is based on EPA's new lead level just issued (50 ppb triggering level).

Question #20

Q. We notice that EPA is taking Superfund action at a couple of sites (ASARCO in East Helena, Montana, and NL Industries in Granite City, Ilinois) that involve lead contaminated soils in residential or urban areas. Has EPA taken similar action at other residential sites in the past? Or does EPA contemplate taking such action in the future?

A. EPA has, in the past, taken action at other Superfund sites that involve lead contamination in residential areas. EPA is also taking action at other sites.

For example, EPA is cleaning up over 150 properties (including 140 residences) at the Marjol Battery site (Region III) in Throop, Pennsylvania. **EPA is cleaning up soil contamination at the Bunker Hill site (Region IX) near Kellogg, Idaho (fairly political, may not want to mention this, DOJ (re: John C. Cruden) had some problems.** At the Interstate Lead Co. site in Leeds, Alabama, EPA and responsible parties took action to reduce exposure to lead contamination from airborne particulates.

Other sites include:

1. The Beachwood Berkeley Wells site in New Jersey where EPA connected affected private wells with a public drinking water supply. The private wells were contaminated by lead and other heavy metals.

2. The Smuggler Mountain site in Colorado where EPA plans on removing lead contaminated soil from residential areas.

Question #21

Q. We understand that lead contaminated soil in residential and urban areas is a problem that needs to be addressed because of the harmful impacts of lead on children. What, if anything, is EPA doing to rectitfy this situation?

A. **(This is what we are doing. However, ORD and OERR may want to be notified of the potential for airing this in a public and national forum).**

The Superfund Amendment and Re-authorization Act of 1986 added Section 111(a)(6), which states inter alia: "The President shall use the money in the Fund for the following purposes....

> Payment of not to exceed $15,000,000 for the costs of a pilot program for removal,decontamination, or other action with respect to lead-contaminated soil in one to three different metropolitan areas.

Based on the amendment, EPA is undertaking three urban lead soil studies in Boston, Cincinnati, and Baltimore based on the 1986 Amendments to the Superfund Law. EPA's pilot programs are not yet completed, but most of the data has been compiled. The studies are designed to understand more fully: (1) whether lead contamination is really a big problem in urban areas; (2) the causes of the contamination; and (3) the possible abatement measures necessary to reduce lead exposure.

EPA is taking action in cooperation with HUD and other governmental agencies to address this problem.

At this time, the problem is, we do not know that soil is the primary cause of elevated lead levels in urban children. Most likely, the causes are varied and there is no guarantee that a costly EPA abatement action would actually work. We need more and better information about this subject.

QUESTION #22

Q. **Are other groups besides children particularly at risk for exposure to lead?**

A. Some groups of adults are also at risk, especially pregnant women as lead in their blood can be transmitted to the fetus, and workers in some occupations who can be exposed to dangerous levels of lead.

QUESTION #23

Q. **Has the federal government made progress in the past decade in reducing the amount of lead in the environment?**

A. The federal government has made considerable progress. This is reflected in the dramatic drop of lead in children's blood level due to federal action e.g., EPA's success in phasing out lead in gasoline.

QUESTION #24

Q. **How does the Office of Enforcement' lead initiative relate to EPA's Lead Strategy?**

A. The Office of Enforcement's lead initiative is part of EPA's Strategy for Reducing Lead Exposures Lead Strategy (Lead Strategy). The goal of the Lead Strategy issued on February 26, 1991, is to significantly reduce lead exposures to the public and the environment with particular interest in children. EPA is working under the Lead

Strategy to reduce lead emissions through regulatory research and enforcement, pollution prevention control programs, and educational training activities. The Office of Enforcement'S lead initiative is intended to be an integral component of EPA's Lead Strategy with an emphasis on improving compliance with existing regulations governing lead emissions.

QUESTION #25

Q. Why are no enforcement actions being brought against sources identified on the Toxic Release Inventory (TRI) list of the top 100 sources of lead emissions in the United States?

A. Just because sources are major emitters of lead emissions does not mean that they are not in compliance with the applicable environmental regulations. Enforcement actions are brought only against sources that are alleged not to be in compliance with environmental regulations.

QUESTION #26

Q. Why are no enforcement actions in today's lead initiative being bought against lead smelters?

A. As of October 1990, EPA's Office of Air and Radiation (OAR) had conducted inspections of all 29 smelters in the country (27 are currently in operation). At this time 22 of the 27 smelters in operation are in compliance with Federal and State air pollution requirements, six are in violation and one is currently being evaluated. The six violating sources have been the subject of Federal and State enforcement actions initiated before the Office of Enforcement's lead initiative commenced. EPA and the affected States are currently negotiating with the six smelters that are not in compliance to ensure the expeditious installation of controls and return then to compliance.

QUESTION #27

Q. What is RCRA?

A. The Resource Conservation and Recovery Act (RCRA) is the nation's primary authority for dealing with the management and handling of solid and hazardous wastes.

QUESTION #28

Q. What are the goals of RCRA?

A. The goals established by RCRA are to protect human health and the environment, to reduce waste and conserve energy and natural resources and to reduce or eliminate the generation of hazardous waste as expeditiously as possible.

QUESTION #29

Q. Why are so many of the actions being filed in this enforcement initiative being brought under RCRA?

A. RCRA is a multi-media statute that provides tremendous opportunities for addressing diverse environmental problems and contains legal authority for addressing air, surface water and soil contamination.

QUESTION #30

Q. How does enforcement activity against recyclers relate to the Agency's interest in promoting recycling?

A. EPA is trying to promote environmentally sound recycling. In this regard, RCRA mandates that recycling be done in a manner that is consistent with protecting human health and environment.

QUESTION #31

Q. How can EPCRA and/or the Toxic Release Inventory (TRI) help reduce exposure to lead?

A. Because TRI requires manufacturing industries to report publicly their releases of lead and lead compound into the environment, the inventory is a key tool in targeting industries and specific facilities for enforcement. Of course, not all major emitters of lead are violating the law, but the TRI provides the public, EPA, and the regulated community the data we need to make intelligent decisions about lead emissions. It allows us to relate releases of lead into the environment to increased risks of lead exposure, to set priorities in terms of industries and locations like inner cities for developing ways to decrease lead releases into the environment, it allows us to identify those types of emission and other releases that are in need of new regulations or legislation.

Because EPA, state, tribal and local governments and the public rely on TRI to make informed decisions, TRI data must be complete, accurate, and reliable. EPA's enforcement efforts are designed to bring lead manufactures into compliance with the § 313 reporting requirements and therefore enhance the integrity of the TRI.

QUESTION #32

Q. **What is the enforcement history of EPCRA § 313 cases?**

In fiscal year 1989, EPA issued 132 complaints, closed 26 cases, and assessed $489,930 in civil penalties. In fiscal year 1990, EPA issue 210 complaints, closed 42 cases, and assessed $535,553 in civil penalties.

QUESTION #33

Q. **What are the lead compounds that must be reported under TRI?**

A. Lead and lead compounds are subject to § 313 Reporting to the Toxic Release Inventory pursuant to EPCRA § 313(c)

Industries in SIC codes 20 - 39 are required to report EPCRA § 313 information. Lead releases would be expected to be reported primarily from industries in SIC codes 33 and 34 (Fabricated Metals and Primary Metals, respectively).

Industry reported release or transfer of 22,434,784 pounds of lead to the TRI in 1988, as compared to a reported 47,615,994 pounds in 1977.[1] In 1988, the largest percentage of lead was released to land, accounting for 36.99% of total lead released. 4.31% of lead releases were to air, and only 0.53% of lead was released to surface waters. The majority of lead, 57.9%, was reported as transferred off-site for treatment, storage, or disposal. Texas had the greatest amount of lead releases or transfers of the 50 states.

The following lead and lead compounds are subject to § 304 reporting:
(1) Tetraethyllead and Tetramethyllead are on the list of EHS chemicals required to be reported.
(2) The CERCLA § 103 chemicals, found at 40 C.F.R. § 302.4, that contain lead are:

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[1] EPA, **Toxics in the Community; National and Local Perspectives**, at 99 (September 1990).

"lead and compounds"
Lead Arsenate
Lead, bis(aceto-O)tetrahydroxytri
Lead chloride
Lead fluoborate
Lead iodide
Lead nitrate
Lead phosphate
Lead stearate
Lead subacetate
Lead sulfate
Lead sulfide
Lead thiocyanate

QUESTION #34

Q. Why are lead and other lead compounds listed as extremely hazardous susbstances?

A.

QUESTION #35

Q. What does the Clean Water Act require?

A. The Clean Water Act regulates discharges of pollutants to "Waters of the U.S." (surface waters). It places enforceable limits on point sources" of pollution (eg. and of the pipe discharges) as opposed to "non point sources" (eg. agricultural run-off).

QUESTION #36

Q. What is the NPDES Program?

A. Industrial and municipal facilities need faculty - specific NPDES permit limits governed by discharge limits set by EPA or an authorized States. These discharge limits in industrial permits are set using technology - based standards which EPA has set industry by industry or case-by-case judgement regarding any additional controls needed to meet water quality protection standards (or if no industry standard is available.

QUESTION #37

Q. **What action can EPA take if someone violates the lead limits in their permit and discharges lead without a National Pollution Discharge and Elimination System (NPDES) permit?**

A. EPA can bring enforcement actions against anyone who discharges without complying with their permit such as those who exceed their permit levels for lead. EPA can also bring enforcement actions against any person discharging a pollutant, such as lead from a point source, who lacks the required permit. States are the primary enforcers, although EPA retains authority to take enforcement in authorized or unauthorized States.

QUESTION #38

Q. **What penalties may be imposed if EPA brings an enforcement action for a violation of the Clean Water Act?**

A. Under the 1987 amendments to the Clean Water Act, EPA may issue administrative orders requiring compliance within a specific time and may assess administrative penalties of up to $10,000 for each violation with a maximum ceiling of $125,000. EPA can also bring civil suits in a United States District Court seeking appropriate injunctive relief and civil penalties of up to $25,000 per day per violation.

QUESTION #39

Q. **What future and\or additional enforcement initiatives is EPA planning to take against major sources of lead emissions?**

A. Although no date has been set for additional enforcement initiatives targeting major sources of lead emissions, EPA will continue to make compliance with existing regulations an enforcement priority.

QUESTION #40

Q. **It appears that today's enforcement action's have not targeted the most egregious sources of lead emissions and that EPA is pursuing relatively simple enforcement actions rather than target the more complex, long term contributors to the lead problem ?**

A. Many of the enforcement actions being brought today have major environmental significance, i. e. a CERCLA Consent Order for the ASARCO\East Helena, Montana, Superfund site that will require the cleanup and removal of contaminated soil from daycare centers, parks, yards schools, playgrounds and unpaved streets and alleys in and around East Helena, Montana. This action, in particular, will reduce lead exposure to children living and playing in that area.

EPA is also seeking between $7 million and $15 million in penalties in an administrative case under RCRA involving Amoco Oil Company's Yorktown, Virginia refinery and is seeking more than $1 million in penalties in another Administrative case under RCRA involving AT&T's Richmond Works in Richmond, Virginia.

QUESTION #41

Q. **Has EPA's phasing out of leaded gasoline significantly reduced the amount of lead being introduced into the environment?**

A. As a result of EPA's lead phasedown regulations the amount of lead in gasoline has been reduced over 99% since 1975. The lead phasedown regulations reduced the amount of lead allowed in gasoline from the approximately 2.5 grams per gallon of the early 1970's, to 0.1 grams per gallon since 1986. In order to allow industry to achieve these greatly reduced standards, EPA in 1985-1987 allowed the banking and trading of lead rights, one of the Agency's first major market-based incentive programs.

QUESTION #42

Q. **What previous enforcement actions have been brought by EPA involving the lead phasedown program?**

Enforcement of the lead phasedown regulations has resulted in the issuance of over 130 notices of violation, with proposed penalties of $100,000,000. Penalties collected resulting from the settlement of lead phasedown cases, including expenditures to obviate economic benefit, are in the range of $20,000,000 to date. As a result of the lead phasedown regulations over 150,000,000 grams of excess lead were eliminated from gasoline production as a direct result of EPA's enforcement activities, with an estimated environmental benefit of over $40,000,000.

QUESTION #43

Q. What are the three major sources of exposure to lead?

A. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline) and lead in drinking water.

QUESTION 44

Q. What are other major sources of exposure to lead?

A. Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in consumer products.

QUESTION #45

Q. Isn't lead primarily an environmental threat to inner-city children and children living in public housing developments?

A. Public health officials say lead is the No.#1 environmental threat to children whether they live in public housing or suburban homes.

Seventy percent of all private housing built before 1980 contains some lead paint.

QUESTION #46

Q. If lead in paint is such a major source of lead exposure, particularly to large numbers of children, why is the Office of Enforcement's lead initiative not addressing this topic?

A. EPA at the the present time is lacks the statutory jurisdiction to address the very serious problem of lead in private housing.

EPA is however working with other federal agencies, e.g. the Department of Housing and Urban Development (HUD) and the Department of Health and Human Services (HHS) and other agencies to develop a comprehensive federal approach to deal lead problems.

QUESTION #47

Q. What environmental statutes are being used in today's enforcement actions against sources of lead emissions?

Today's enforcement actions are being brought under six enforcement authorities: the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Clean Water Act (CWA); the Safe Water Drinking Act (SDWA); the Clean Air Act (CAA) and; the Emergency Planning and Community Right to Know Act (EPCRA).

QUESTION #48

Q. **How many of EPA's Regions are participating in today's enforcement initiative against sources of lead emissions?**

A. All of EPA's (10) ten Regions are participating in the Office of Enforcement's lead initiative.

QUESTION #49

Q. **How many enforcement actions are being brought today?**

A. ---------- civil judicial cases are being filed today.
---------- civil administrative cases are being filed today.

---------- of consent decrees were lodged with United States District Courts today as part of this enforcement initiative.

Q's & A's PREPARED BY THE OFFICE OF DRINKING WATER

Drinking Water Q&A's

Issue/Question

What health effects have been associated with low-level lead exposures?

Key Points

- The effects of most serious concern involve disruptions in normal mental development and function in babies and young children.
- Small deficits in IQ, attention span, and hearing have been associated with low level exposures.
- Other effects include alterations in red blood cell metabolism and Vitamin D synthesis, premature birth and low birth weight, and small increases in blood pressure in adults.
- These effects have generally been associated with blood lead levels above 10 micrograms of lead per deciliter of blood ($\mu g/dL$), although some recent studies indicate subtle changes at even lower levels.

Issue/Question

What portion of total lead exposure comes from drinking water?

Key Points

- While most instances of lead poisoning come from lead paint and lead contaminated soil, lead in drinking water contributes a small but significant portion of peoples' lead exposure; on average about 1 to 2 ug/dl of blood lead or about 20% of average total lead exposure.
- Lead in drinking water is one of the largest remaining controllable sources of lead.
- In young children about 20% of total exposure to lead comes from drinking water, but it can range from 5 to 50%. The precise proportion will vary widely depending on all the sources a child is exposed to.
- In homes with new lead solder and fixtures or lead service lines and corrosive water, lead from drinking water can be at the higher end of the range.

Issue/Question

What is EPA's current blood lead level of concern? What are the current blood lead levels in the U.S.? What effect will this rule have on these levels?

Key Points

- EPA's blood lead level of concern of 10 μg/dL. Most health effects occur above this level. However, this level should not be misconstrued as a threshold below which the adverse health effects of lead cease to occur. This level is used as a benchmark to assist the Agency in evaluating the progress in reducing lead exposures.

- The Agency's goal is to reduce blood lead levels to the lowest levels practicable.

- The national average blood lead level in children is estimated to be between 4-6 μg/dl.

- EPA expects an average decline of about 1 μg/dl as a result of this rule although many children will have larger improvements.

Issue/Question

What areas of the country and/or cities have the worst problems with lead in drinking water?

Key Points

- Homes with elevated lead levels have been found in different areas of the United States. Areas with corrosive water, and homes with relatively new lead solder, new brass faucets, or lead service lines are at greatest risk.
- The most corrosive waters are often found in the Northeast.
- Lead solder and pipes have been banned from use since 1986. Nevertheless, older plumbing can still be a problem, lead solder can still be purchased, and so new housing should be checked.
- New brass fixtures can leach lead.
- Lead service lines are found nationwide, but are more commonly found in older, industrialized parts of the U.S., such as the Northeast or Midwest.

Issue/Question

What are the major sources of lead and copper in drinking water?

Key Points

- The corrosion of household plumbing and materials in water distribution systems are the main sources of lead and copper. Lead and copper are rarely a problem in the water supply itself.
- EPA estimates that about 1% of public water systems have water entering the distribution system with elevated lead or copper levels (about 900 systems).
- Most public water systems serve at least some buildings with lead solder, brass fixtures, and/or lead service connections.
- Lead solder and fluxes containing up to 50 percent lead were widely used to connect copper pipes until their use was banned under the 1986 Amendments to the SDWA.
- EPA estimates that there are about 10 million lead service connections (service lines, goosenecks, pigtails) in the United States and that about 20 percent of all public water systems have some lead service connections within their distribution system.

Issue/Question

What impact will the drinking water regulation have on the country?

Key Points

- The final rule represents a tremendous step towards minimizing nationwide exposures to lead in drinking water.
- 79,000 public water systems operating in the United States will be required to collect standing, first flush tap water samples from hundreds of thousands of high risk homes in every community across the country to determine the water lead levels to which their customers are exposed.
- Roughly 130 million people will benefit from this rule. Among those are 20 million children, of which we estimate approximately 600,000 will have their blood lead levels reduced below EPA and CDC's level of concern (0.010 ug/dl).
- Nationwide health benefits when translated into avoided medical costs are estimated to be between $2.8 and $4.3 billion per year for corrosion control and source water treatment and between $70 and $240 million per year for lead service line replacement.
- Nationwide material benefits attributable to reduced corrosion of water distribution systems and household plumbing systems are estimated to be $500 million per year.
- Total annualized costs are estimated to be between $500 and $790 million per year.

Issue/Question

Why did the Agency establish a treatment technique standard rather than an MCL?

Key Points

- Tap water lead levels vary tremendously from system-to-system, even when the systems have optimized corrosion control. Consequently, no single nationwide numerical standard could be used to assure lead was being reduced to the minimum in all systems.
- Variability is attributable to a number of raw water and distribution system characteristics which change daily and seasonally; varying from system-to-system, house-to-house, and even within individual systems and houses.
- If an MCL were set at a level that could feasibly be achieved with current best available technology (taking into account the presence of lead in private plumbing) it would have been set somewhere between 15 and 20 ppb measured as an average (50th percentile).
- Therefore, the final lead action level (15 ppb 90th percentile) is 3 to 4 times more stringent than an MCL that could have been set.

Issue/Question

Why does the final rule provide water systems with so much time to complete the treatment technique requirements?

Key Points

- Developing, installing and operating optimal corrosion control treatment is a complex technical process requiring systems to continuously evaluate the effectiveness of treatment.
- The entire process takes at least 4½ years to complete.

Background

Timing of Corrosion Control:

18 Months--Develop Recommendation

- Systems developing and designing corrosion control treatment will have to conduct laboratory studies to determine optimal treatment.
- Tests will have to be run long enough to allow for the development of pipe scales and constant corrosion rates.
- The final rule allows 18 months for designing and building test loops, analyzing data, and submitting treatment recommendations to the State.

24 Months--Install and Optimize Treatment

- Installation of treatment takes time because protective coatings on the pipes develop gradually as treatment is applied.
- Treatment must be applied slowly to avoid adverse impacts on overall water quality and balance competing treatment needs.
- 24 months is the minimum amount of time required for corrosion control treatment to reach its optimum level.

12 Months--Monitoring for Seasonal Variation

- Systems must collect follow-up samples during a 12 month period to allow for seasonal variations that affect treatment and lead and copper levels.

Issue/Question

How can EPA ensure consistent public health protection across the country with regulatory requirements left to State discretion?

Key Points

- Water lead levels in every home in the country cannot be reduced to the same level.
- Rule requires all water systems to install optimal corrosion control treatment, which means they have to minimize the concentrations of lead in drinking water as far as they possibly can.
- Corrosion control is a complex, iterative process requiring suppliers to assess local water quality conditions and distribution system materials, and institute carefully designed treatment to reduce water lead levels while maintaining good overall water quality.
- EPA believes the states are in the best position to determine whether a system has installed optimal corrosion control to minimize lead levels at consumers' taps because they will evaluate each system's tap and source water samples, and the results of system specific corrosion control studies.
- While the effectiveness of optimal corrosion control varies from system-to-system (resulting in different water lead levels) source water treatment, lead service line replacement, and public education will be implemented and enforced consistently in each and every system across the country.

Background

- In addition to having to develop and install optimal corrosion control treatment, the final rule requires water systems to:

  monitor their raw water sources to determine whether source water treatment is needed (>5 ppb) to reduce concentrations of lead in tap water;

  deliver a public education program to help insure that their customers can take the necessary steps to reduce their exposure to lead in drinking water; and

  if water quality treatment is insufficient to reduce tap water lead levels below 15 ppb, replace all lead service lines that contribute to elevated tap water lead levels.

Issue/Question

The action level of 15 ppb is not a ceiling on the permissible level of lead in drinking water since the action level can be exceeded in 10 percent of the homes. By contrast, all homes are protected by a tap water standard for lead.

Key Points

- Because the 50 ppb lead MCL does not have to be measured at users' taps, and because a significant proportion of lead in drinking water is attributable to lead in private plumbing systems, the current MCL does not provide a good indication of water lead levels to which the public is actually exposed.

- The action level (0.015 mg/L in the 90th percentile) is not a health standard. It is a measure to determine whether a system has optimized corrosion control. 0.015 mg/L measured in the 90th percentile is equivalent to 0.005 mg/L measured in the 50th percentile (average).

- Though the final action level allows 10 percent of homes to be above 15 ppb, EPA estimates that less than 0.5% of the total population could potentially be exposed to lead levels in drinking water above 15 ppb (action level). Keep in mind that systems serving more than 50,000 persons must install optimal corrosion control even if the water lead levels are below 15.

- Even when a system serving less than 50,000 persons is just below the action level, and avoids corrosion control treatment, only a small percentage of the homes are likely to exceed 15 ppb.

Background

- About 15% of single-family structures in the U.S. are high risk homes (5% with lead service lines and 10% contain solder installed after 1982). If high risk homes were evenly distributed across all water systems, only 1.5% of homes nationwide would have lead levels above 15 ppb and be served by water systems that do not have to install treatment (15% high risk homes X 10% above action level).

- Percent reduced even further (to about 0.6%) because the rule requires systems serving >50,000 people (almost 60% of the population) to install optimal corrosion control regardless of lead levels.

- The rule requires first draw samples that have stood at least 6 hours to determine whether a system is above an action level. Since levels of lead tend to be much higher in first draw water, and only a portion of that water is consumed by customers, amount of drinking water consumed by individuals with lead levels over 15 ppb is reduced even further.

- Excessively high lead levels have been measured in some homes and buildings. EPA believes these lead levels are due to: lead-lined water coolers; lead solder installed after 1986 (date of lead ban); and new brass fixtures.

- EPA has an on-going program to help schools identify and correct problems with water coolers. The problems related to illegally installed lead solder and brass fixtures are the focus of the Agency's on-going effort to ban lead under the Toxic Substances Control Act (TSCA). EPA continues to work with the National Sanitation Foundation (NSF) to develop a performance standard for lead leaching from new brass faucets and fixtures.

Issue/Question

How will EPA oversee State decisions and enforce the regulatory requirements?

Key Points

Review of State Decisions

- EPA can review State treatment decisions and make its own determinations at any time the Agency finds that a State has failed to make a determination, or has made an inadequate determination.

- The regulatory provision provides citizens with an additional avenue to redress grievances by providing them with an opportunity to petition the Regional Administrator to review State determinations of optimal corrosion control treatment.

Enforcing Against Systems

- As with all NPDWRs, EPA may pursue formal enforcement proceedings in Federal court against public water systems where it is alleged that a system has failed to comply with the provisions of the rule (i.e., the treatment technique requirements, monitoring requirements, etc).

- Similarly, a private citizen may commence a civil action in Federal court against a water system alleged to be in violation of any regulatory requirement.

General Oversight

- EPA can formally review State corrosion control and source water treatment determinations every six months during State/EPA mid-year and end-of-year review.

Background

- Section 141.82

(i) Treatment decisions by EPA in lieu of the State

Pursuant to the procedures in §142.19, the EPA Regional Administrator may review treatment determinations made by a State under paragraphs (d), (f), or (h) of this section and issue federal treatment determinations consistent with the requirements of those paragraphs where the Regional Administrator finds that:

(1) a State has failed to issue a treatment determination by the applicable deadlines contained in Section 141.81,

(2) a State has abused its discretion in a substantial number of cases or in cases affecting a substantial population, or

(3) the technical aspects of a State's determination would be indefensible in an expected federal enforcement action taken against a system.

- Section 142.19 contains the procedures EPA must follow when reviewing State treatment determinations.

Issue/Question:

How can the public participate in State treatment decisions?

Key Points

- Section 141.82(h) of the final rule provides all interested parties with an opportunity to request that the State modify its determination of optimal corrosion control treatment or optimal water quality parameters.

Background

- (h) Modification of State treatment decisions

Upon its own initiative or in response to a request by a water system or other interested party, a State may modify its determination of the optimal corrosion control treatment under paragraph (d) of this section or optimal water quality control parameters under paragraph (f) of this section. A request for modification by a system or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The State may modify its determination where it concludes that such change is necessary to ensure that the system continues to optimize corrosion control treatment. A revised detemination shall be made in writing, set forth the new treatment requirements, explain the basis for the State's decision, and provide an implementation schedule for completing the treatment modifications.

Issue/Question

How will EPA enforce the MCL of 50 ppb when the new rule becomes effective?

Key Point

- The MCL of 50 ppb is effective until November 1992.
- Systems currently out of compliance will remain in violation of the standard until November 1992 unless they reduce lead levels below 50 ppb.
- As of June 1991, only 5 systems are in violation of the current lead MCL (50 ppb). All are operating under compliance schedules contained in enforcement orders.
- After November 1992, any system that has excessive lead levels can be addressed via SDWA §1431 (Emergency Powers). Under this authority EPA can issue enforcement orders or commence civil actions where contamination in public water systems presents imminent and substantial endangerment.

Issue/Question

What has EPA done to ensure that the Lead Contamination Control Act (LCCA) is fully and effectively implemented?

Key Points

- EPA has gone far beyond the minimum requirements in the statute to provide schools with guidance and training on testing for and remedying lead contamination in drinking water.
- The law requires the identification of water coolers that are not lead-free; the repair and removal of water coolers with lead-lined tanks; a ban on the manufacture and sale of water coolers that are not lead-free; and the identification and resolution of lead problems in schools' drinking water.
- EPA has developed a testing protocol that has been used in thousands of school districts as well as by operators of non-school buildings.
- EPA has published two lists of non-lead free water coolers.
- As a result of EPA's work, a recall was ordered of Halsey Taylor water coolers with lead-lined tanks.
- In addition to meeting the statutory requirements, EPA conducted a series of "train the trainer" seminars for testing and remedying lead contamination in school drinking water. 37 States have trained local school officials.

Background

- Schools are not required to test coolers, but if they do the results must be made available to the public. While LCCA requires States to establish programs to assist schools, the law does not provide States with enforcement authority against schools that fail to comply voluntarily. Ensuring that schools test for and remedy lead problems involves resources currently not available to many States or school districts.
- EPA recently completed a training video and a "Hazards in Schools" booklet. The Agency is also developing guidance for day cares and nursery schools and for non-residential, non-school buildings.
- All of these activities have been accomplished, and will continue to occur, without additional Federal funding for either EPA or the States.

Issue/Question

What is EPA doing to reduce exposures from brass and bronze faucets and lead solder in addition to the lead rule?

Key Point

- The new lead rule will reduce the contribution to total tap water lead levels from sources including faucets, fixtures, pipes valves and solder.

- EPA will continue to work to prevent use of lead solder and reduce leaching of lead from brass fixtures. Brass alloys currently contain anywhere from 3.5% to 7.0% lead for a number of technical reasons. Alternatives are being studied.

- Under TSCA (section 6), EPA is currently considering bans or restrictions on the following products that contain lead:

  - brass and bronze plumbing fittings and fixtures (scheduled for proposal in March 1992); and
  - lead solder used for plumbing purposes (scheduled for proposal in February 1992).

- EPA is working with the National Sanitation Foundation (NSF) to establish performance standards for newly manufactured brass faucets and fixtures.

Background

- The National Sanitation Foundation (NSF) is an independent laboratory that is the drinking water equivalent of the Underwriters Laboratories (which is also entering the drinking water business). Manufacturers of products that treat, or come into contact with, drinking water submit their products to NSF for certification.

- We expect that the NSF standard will be finalized this year. Only those faucets that are tested to show minimal leaching of lead will be certified by NSF.

- Some manufacturers are beginning to investigate lead-free metal alloy faucets, but it appears that it will be several years before these faucets are in widespread use.

- Other EPA reviews include lead in non-residential paint and battery recycling. EPA has coordinated efforts with HUD and CDC on research and abatement of old lead paint.

Issue/Question

EPA's IG (Region 3) found Agency and States efforts on lead in school drinking water and lead solder ban inadequate

Key Points

EPA agrees that improvements are needed

IG report exaggerated problems based on a very small subset of schools

EPA has fully complied with LCCA and lead solder ban requirements

New requirements for school testing are not mandatory and impose significant costs on already-strapped schools

EPA will continue to provide technical assistance and research to lower costs of testing

Background

IG: States not adequately ensuring schools test for lead

EPA Response:

Only 13 school districts surveyed; 10 tested but IG concluded they did not follow proper procedures or did not test enough

Subsequent data from Region 3 States indicate widespread testing that goes unreported to States

School testing not mandatory but results must be made public

States have no enforcement authority

Resources inadequate among schools and States

EPA has developed and distributed guidance on testing and remediation and conducted training seminars

Formal laboratory evaluation underway to establish precision of field test kits which can significantly lower costs for school testing

IG: EPA should improve procedures for identifying problem water coolers

EPA Response:

EPA published proposed list on time; delayed finalization to insure defensible recall order for CPSC

No delay in school testing resulted because proposed list was widely distributed along with guidance documents

Law requires determination of actual lead content of cooler as opposed to water test; time and money needed for lab "surgery"

We will update list as new information becomes available and plan on developing National Clearinghouse to help schools, States, etc.

IG: EPA has not adequately enforced lead solder ban and public notification provisions in SDWA section 1417

EPA Response:

EPA has no direct enforcement authority; can only withhold 5% of State grant money

EPA withheld 5% from 2 States last year; several more are being considered

EPA has issued guidance to States and informed all Governors of lead ban requirements

EPA is developing model State programs for plumbing inspections and enforcement of lead ban

EPA is also reviewing restrictions under TSCA on lead solder sales to plumbers or manufacturing ban

EPA also working on National Sanitation Foundation standard on new brass fixtures

Public notification compliance is greater than indicated in IG summary tables

IG: EPA needs to eliminate confusion over Lead MCL

EPA Response:

EPA did send out alert to laboratories nationwide that explained difference between MCL and school "action level"

TAB 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 26 1991

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: Final Agency Lead Strategy

FROM: Joseph S. Carra, Deputy Director
Office of Toxic Substances

TO: Office Directors Lead Committee

Attached is the final version of the Agency-Wide Strategy to Reduce Lead Emissions. This strategy was the basis for the Administrator's Senate testimony on lead on February 21, 1990.

This strategy represents a great deal of hard work by all of our offices. I am particularly proud of the coordination that has taken place to produce this consolidated agenda to address lead contamination, and am looking forward to continuing this coordination as we move to implement this strategy.

Attachment

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Michael B. Cook, Office of Drinking Water (WH-550)
William H. Farland, Office of Health and Environmental Assessment (RD-689)
Daniel J. Fiorino, Office of Policy Analysis (PM-221)
Scott Fulton, Office of Enforcement (LE-133)
Henry L. Longest, Office of Emergency and Remedial Response (OS-200)
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Peter W. Preuss, Office of Technology Transfer and Regulatory Support (H-8105)
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U.S. ENVIRONMENTAL PROTECTION AGENCY

STRATEGY FOR

REDUCING LEAD EXPOSURES

* February 21, 1991 *

U.S. ENVIRONMENTAL PROTECTION AGENCY
STRATEGY FOR
REDUCING LEAD EXPOSURES

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EXECUTIVE SUMMARY

INTRODUCTION

This document presents the coordinated strategy of the U.S. Environmental Protection Agency to address the significant health and environmental problems our society is facing as a result of lead pollution. Lead is a multi-media pollutant; accordingly, the Agency plans to address lead contamination by coordinating its authorities across programs.

Because the strategy includes research, regulatory, enforcement, educational and training activities, we envision this document will be a living document, and that it will evolve as we begin to implement its various components. Several aspects of the strategy will entail continued coordination with other branches of government while others, such as regulations, will require full compliance with the Agency's rulemaking requirements.

THE PROBLEM

Lead is a highly toxic metal, producing a range of adverse health effects, particularly in children and fetuses. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Adverse effects have been found at lower and lower blood lead levels, and the Centers for Disease Control (CDC) anticipate lowering its level of concern from 25 µg/dl to a level within the range of 10 to 15 µg/dl.

Elemental lead is indestructible, and ubiquitous in the environment. Although the percentage of children with elevated blood lead has declined substantially over the last twenty years, with average blood lead levels dropping from 15 to 5 µg/dl, an estimated 15% of children still have blood lead levels over 10 µg/dl. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline), and lead in drinking water (moderate exposures in large populations). Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in products.

EPA'S STRATEGY

The goal of the strategy is to reduce lead exposures to the fullest extent practicable, with particular interest in reducing the risk to children, to avoid high blood lead levels. Two objectives will be used to set program priorities and gauge program success: 1) to significantly reduce the incidence of blood lead levels above 10 µg/dl in children while taking into account the associated costs and benefits, and 2) to

significantly reduce, through voluntary and regulatory actions, unacceptable lead exposures that are anticipated to pose risks to children, the general public, or the environment. These objectives will necessarily evolve as we better understand the risks posed by lead.

The strategy includes several major action elements:

- develop methods to identify geographic "hot spots",
- implement a lead pollution prevention program,
- strengthen existing environmental standards,
- develop and transfer cost-effective abatement technology,
- encourage availability of environmentally sound recycling,
- develop and implement a public information program, and
- aggressively enforce environmental standards.

EPA's research program, with other Federal agencies, will define, encourage, and/or conduct research needed to 1) locate and assess, in terms of both geography and media, serious lead risks, and 2) develop methods and tools to reduce those risks. EPA's Lead Research Sub-Committee will continue to define and rank lead research program objectives and activities.

EPA's abatement program focuses on in-place lead, and addresses lead-based paint exposures, urban soil and dust, and Superfund sites. Lead-based paint is the most serious source of children's exposures. Although the Department of Housing and Urban Development (HUD) has primary responsibility for the lead-based paint portion of this program, EPA is providing HUD with technical and administrative assistance. HUD's Lead-Based Paint Task Force, with representation from EPA, CDC, the National Institute of Standards and Technology (NIST) and other Federal agencies, is providing a mechanism for the exchange of information on Federal lead-based paint activities among the various agencies. EPA is funding a number of initiatives in support of reducing risk from in-place lead, and will continue to serve as the focal point and overall manager of technical support to HUD.

Lead-contaminated urban soil is believed to be the next most important source of lead exposure, but relatively little is known about it. Under the Superfund Amendments and Reauthorization Act (SARA), EPA is conducting a pilot program to evaluate effects of removing lead-contaminated soil and dust on children's blood lead.

More than 400 National Priority List sites have lead as an important contaminant. EPA has issued interim guidance on lead soil clean-up levels at Superfund sites, and is working to provide methods for determining site-specific soil levels.

EPA's regulatory and pollution prevention program includes efforts by a number of different offices to examine cost-effective ways to reduce lead exposures using both voluntary and regulatory approaches. This includes actions which will reduce lead exposures as part of larger environmental programs. Included are:

· Lead in drinking water usually occurs at low levels, but affects much of the U.S. population. Lead levels are due to the leaching of lead from components of household plumbing and from public and private water distribution systems. The Office of Drinking Water is finalizing requirements for lead under the Safe Drinking Water Act. Lead-containing materials used in drinking water systems and water coolers have also been banned.

· The Office of Solid Waste has issued a number of regulations involving smelter and other types of lead waste, and is currently reviewing policy in those areas.

· The Office of Toxic Substances is examining the risks related to the use of lead in products. The Office is considering several rules which may restrict lead use in specific products (and possibly impose overall restrictions on use of lead as well) and would encourage environmentally-sound lead-acid battery recycling.

· The Office of Air Quality Planning and Standards is considering revising both the current National Ambient Air Quality Standard for lead and specific standards for smelters.

· Action by the Office of Pesticide Programs has resulted in the cancellation or reformulation of pesticides containing lead, and work to phase out lead will continue where the risks exceed the benefits.

· The Office of Water Regulations and Standards is working on regulations for lead, among other contaminants, in sewage sludge.

· The Office of Enforcement will undertake a major initiative to improve compliance with regulations affecting sources of lead emissions.

STATEMENT OF PROBLEM

HEALTH EFFECTS

Lead is a highly toxic heavy metal. It produces a spectrum of effects, both acute and chronic. Adverse effects include peripheral and central nervous system dysfunction, anemia, and in extreme cases, mental retardation and death. It has no beneficial biologic effect, and current data do not permit establishing a clear threshold for adverse effects.

Fetuses and young children are particularly susceptible to lead. Considerable data suggest a correlation between elevated blood lead (EBL) and delays in early neurological and physical development, cognitive and behavioral alterations, alterations in red blood cell metabolism and vitamin D synthesis, and kidney impairment.

Adults also face health risks. A positive association has been found in adult males between EBL and hypertension. Lead has also been associated with increased risk of cardiovascular disease. Since lead is stored in bone, it may be mobilized during periods of stress, during pregnancy, and among people suffering from osteoporosis. Lead exposures also may play a role in miscarriages and in damage to the male reproductive system.

Blood lead (PbB) is a surrogate for estimating recent exposure. There has been increasing concern about PbB at lower and lower levels over the past 15 years, as adverse effects have been identified at levels not previously recognized as harmful. The Centers for Disease Control (CDC) has repeatedly lowered the PbB level of concern, from 40 µg/dl in 1978 to 25 µg/dl currently, and anticipates lowering this to a level within the range of 10 to 15 µg/dl in the near future.

ENVIRONMENTAL EXPOSURES

As an element, lead is essentially indestructible, and is ubiquitous in the environment. However, there have been large reductions in ambient air lead and food lead concentrations since the late 1970's, primarily due to the phase-down of the use of lead in gasoline and the removal of lead-soldered food cans from domestic production. While no longitudinal or prospective data are available on soil lead, it is likely that reductions in soil deposition have occurred as air emissions declined. This, in conjunction with other factors, has dramatically lowered population PbB. While there has been no recent national survey of human PbB, it is estimated that mean PbB in U.S. children has declined by a factor of three or four, from about 15-20 µg/dl in 1976-80 to approximately five µg/dl today. As the next table

shows, there have been comparable declines in the estimated percent of U.S. children with EBL.[1]

TABLE 1:
Estimated Percentage of U.S. Children under 6 with EBL

PbB	1976-80 (percent)	1990 (percent)
>25 µg/dl	10.7	1.0
>10 µg/dl	91.0	15.0

Thus, substantial progress already has been made in reducing the more acute adverse effects associated with high blood lead levels. As mean general population PbB declined to approximately five µg/dl, the focus of attention has shifted from general population exposures to localized "hot spots". Given the continuing identification of adverse effects at lower PbB levels, however, EPA intends to continue efforts to lower general population exposures as well.

SOURCES OF LEAD

The three major sources of lead contributing to PbB above 10 µg/dl, in descending order of importance, are:

1. **Lead-based paint (LBP):** Most PbB levels in U.S. children above CDC's current level of concern (25 µg/dl) are due primarily to exposures to deteriorating LBP, causing very high PbB in relatively large populations. LBP for residential use was banned by the Consumer Product Safety Commission (CPSC) in 1978. The control of existing LBP in residential units is primarily the responsibility of the homeowners, although the Department of Housing and Urban Affairs (HUD) is responsible for public housing. Programs to assist homeowners and property owners in the abatement of residential LBP is the responsibility of HUD, with EPA and several other agencies providing technical support.

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[1] The estimates in this and the following table were generated by program office staff, using the Agency for Toxic Substance and Disease Registry (ATSDR) report "Nature and Extent of Lead Poisoning in Children in the United States", 1988, and the most recent available information on lead occurrence in various exposure media.

2. **Urban soil and dust:** These were contaminated in the past mainly by LBP and lead in gasoline. The extent and severity of exposures are not well characterized, but both are believed to be large.

3. **Drinking water:** Drinking water generally contributes low to moderate exposures to relatively large populations. Lead contamination is due mainly to lead solder joining water pipes in housing, the past use of lead service lines to connect homes to public water supplies, and the continuing use of lead in brass plumbing fixtures. Lead use in pipes and solder was banned in 1986; however, EPA enforcement of this ban is extremely limited. Revisions to Safe Drinking Water Act (SDWA) regulations will gradually minimize exposures from these sources.

Thus, the major sources of EBL today largely are regional exposures to lead deposited when lead was extensively used in gasoline and paint, and to previously installed lead and lead-soldered pipes conveying drinking water. The next table describes the extent of these exposures.

TABLE 2:
Estimated Number of Children under 6 Exposed to Lead Sources

		Number and percent with PbB >10 µg/dl	
	Total exposed	Number	Percent
LBP, plus urban background	12,000,000	2,000,000	17
Urban soil/dust	12,000,000	?	?
Drinking water	30,000,000	950,000	3.5

Although most EBL in the U.S. today is attributable to one or more of the above sources, there are additional contributions from other sources that add to total lead body burden. The severity of lead exposures from other sources is unclear, although these sources may contribute to very high exposures in smaller populations. These other sources include food and continuing auto emissions, as well as the following sources:

* **Stationary point sources:** Mainly smelters, which cause high PbB in relatively small and local populations. Exposures are due in part to current emissions, and in

part to resuspension of dusts and soil contaminated by past emissions.

* **Superfund National Priority List (NPL) sites:** Approximately 400 of these sites have lead identified as one of the major contaminants, and may have very high soil lead levels.

* **Municipal waste combustors (MWC's):** Presently about 200, with many more planned or under construction. Stack emissions from these sources will be reduced by recently promulgated regulations.

* **Continued use of lead in products or for purposes that could result in high exposure:** For example, the use of lead solder to seal food cans or (illegally) to join pipes conveying drinking water; use in brass plumbing fixtures; use in products (such as paints and solder) used intensively by hobbyists or "do-it-yourselfers"; use in industrial paints, and use in ceramic glazes.

* **Mining sites:** Sites exist where significant residual mine wastes remain. Many of these sites have ongoing activities to remove or remill much of the existing mine waste. The bioavailability of such lead is under investigation.

* **Sewage sludge disposal:** Primarily a problem if the sludge is incinerated without proper controls.

* **Occupational exposures:** This would include secondary exposure of children whose parents are occupationally exposed to lead.

EPA, recognizing the varied sources of lead and the multiple pathways of exposure which are possible, has developed this strategy document to limit lead exposure.

OVERVIEW OF STRATEGY

This section provides a summary of the goal, objectives, and major action elements of EPA's lead strategy.

GOAL

The goal of this strategy is to **reduce lead exposures to the fullest extent practicable, with particular emphasis on reducing the risk to children.** This strategy document describes the extensive set of actions underway or planned within EPA or other Federal agencies to reduce lead exposure. As appropriate within the context of the various statutes which EPA implements, benefits to society of reducing exposures to lead will be weighed against the costs of achieving those reductions before taking action.

OBJECTIVES

To achieve this broad goal, EPA has set two objectives as a means of setting program priorities and gauging success. These objectives will necessarily evolve over time as we better understand the risk posed by lead exposure. These program goals include:

1. **Significantly reduce the incidence of blood lead levels (PbB) above 10 µg/dl (subject to revision in light of the forthcoming CDC report) in children, while taking into account the associated costs and benefits.**

This objective places EPA's priority on the highest exposures and on the most sensitive population, the 15 percent of U.S. children estimated to be at higher blood lead levels. This target is consistent with the recommendation of EPA's Clean Air Science Advisory Committee (CASAC) and the anticipated guidelines of the Centers for Disease Control (CDC). Among these children at risk, EPA will continue to work in close coordination with CDC efforts to identify, through additional surveillance programs, individual children with PbB above 25 µg/dl. These children should have their sources of lead exposure abated on a priority basis. All of the various initiatives will take into account costs and benefits to the extent allowed by statute.

2. **Significantly reduce, through voluntary and regulatory actions, unacceptable lead exposures that are anticipated to pose risks to children, the general population, or the environment.**

Under this objective, priority attention will be given to voluntary and regulatory actions, including pollution prevention activities, to reduce risks. This includes reducing or eliminating lead uses which may pose risks, encouraging environmentally sound recycling, and end-of-pipe controls. Any regulatory actions that will be taken under existing statutory authorities will generally be subject to a balancing of benefits and costs.

MAJOR ACTION ELEMENTS

To achieve the above objectives, EPA activities will proceed along several basic lines of action:

Develop Methods to Identify Geographic "Hot Spots": Identifying specific high exposure areas is critical to encouraging and directing the actual abatement actions. A major element of the lead strategy is to develop technical methods to assist other Federal agencies, and State and local governments, as they locate and map the regions, cities, neighborhoods and homes with high lead concentrations or EBL's. EPA will work with these other agencies to develop methods to identify high exposure localities and situations. For example, EPA will work with CDC's expanded blood screening programs to help identify types of exposure contributing to high blood lead levels in children. Another example of such a program is the Lead Education/Abatement Program, which is being implemented in EPA's Region 5. Data from a number of sources (covering a range of pathways and media) will be mapped into a geographic information system (GIS). Together with demographic information, this will be used to determine geographic areas with the highest at-risk populations so that education, prevention, and abatement efforts can be concentrated.

Develop and Transfer Abatement Technology: Developing and disseminating cost-effective methods and tools to abate "in-place" lead exposure sources is crucial to ensure the use of safe, effective and cost-efficient methods. This is important because (1) significant reductions in lead exposures usually entail abatement (including in-place management); and (2) most actual abatement operations will be conducted at the state and local level by property owners. EPA will develop and disseminate technical assistance to assist these efforts. Most of EPA's present efforts in this area address the abatement of lead-based paint. This includes the development of model training materials and the establishment of university-based training centers for the dissemination of materials, as well as providing funds to labor organizations to encourage proper training. Many other efforts are listed in the section of the strategy discussing abatement activities. As an example, EPA is coordinating with the National Institute for Standards and Technology to develop protocols to evaluate lead-based paint home/field test kits,

including performance criteria. The ease of following directions, and the ruggedness of the test procedure to departures from instructions, is also being evaluated for commercially available test kits.

Implement Lead Pollution Prevention Program: While the major tasks in reducing risks from lead are to abate or control lead that is already deposited in the environment, the lead pollution prevention program will seek to reduce future exposures associated with the continued use of lead. This program will include:

- exploring market-based incentives to limit or eliminate lead use and exposure;

- using regulatory mechanisms (such as the Toxic Substances Control Act (TSCA)) to reduce the use of lead in current and future products where risks outweigh the benefits; and

- identifying and encouraging cleaner technologies for mining, smelting and processing lead.

In addition, the Administrator has stated a goal of reducing lead releases (along with releases of selected other chemicals) by one-third by October 1992, using voluntary means; and reducing lead releases by 50% by 1995. The Administrator intends that this goal be reached primarily through pollution prevention, using toxics use reduction as the preferred approach. This goal applies to reductions which go beyond any existing regulatory requirements.

Minimize Human and Environmental Exposures through Traditional Control Mechanisms: This activity includes controlling lead contamination in water, air, and other media by setting performance standards and other regulatory approaches. Because lead presents risks through a wide range of media, the Agency has clustered together the current and prospective rules and policies addressing risks from lead from these various media. This will allow the Agency and the public to review the regulatory programs of each of EPA's program offices as a cohesive whole, and will help prevent the human and environmental risks of lead pollution from being simply transferred from one medium to another.

Encourage the Availability of Environmentally Sound Recycling: This activity is unique in that it highlights the inherent conflicts which are possible as individual offices strive to minimize lead emissions to their particular media. In order to reduce risks to populations and ecosystems from lead, and to provide safe disposition of spent lead products, the Agency seeks to encourage environmentally sound recycling capacity. Activities recently completed or under consideration by a number

of offices (see following sections) may have a significant impact on recycling capacity. For this reason, these activities will be coordinated and sequenced in order to achieve significant reductions in human and environmental exposure.

Develop and Implement a Public Information and Education Program: Informing and educating the public about sources of lead exposure, how to reduce or avoid exposure, and approaches to preventing additional lead from being introduced into the environment are essential to the success of EPA's lead strategy. This includes outreach to the public, industry, retailers, recyclers, labor, environmentalists, states, and the press. Public information and education tools may include guidance documents and brochures, specialized seminars and conferences, speeches, and videos, as well as media-directed activities such as press releases and press conferences. For example, EPA will produce a training video to assist schools in monitoring for lead in drinking water, and will also publish lists of water coolers containing lead and of certified analytical laboratories. EPA is also preparing a strategy to inform the public on the health risks associated with lead-based paint exposure, and has funded development of a community-based primary prevention program.

Integrate Enforcement: EPA is initiating a cross-media lead enforcement initiative, which will include coordinated inspections and analysis of data, and culminating in a nationwide filing of enforcement cases. This effort will highlight the Agency's commitment to improving compliance with regulations affecting major sources of lead emissions, as well as dealing with lead issues in general.

Coordinate Research Programs: A wide range of research is needed to assist in achieving the goals of this strategy. Some of these research needs are specific to a particular program office, while others are more general in scope. EPA intends to review, coordinate, and prioritize these research needs so that the Agency's research agenda is directly supportive of the program offices' most critical needs. The result of this effort, which will be managed through the Lead Research Sub-Committee, will be a ranking of research needs across the Agency, agreed to by each program office, which will then be used to help set the research agenda for coming years.

COORDINATION

In pursuing these objectives, risk reduction and research efforts will be integrated across program offices and environmental media. EPA will also coordinate its work with that of CDC, HUD, CPSC, OSHA, and NIST. This effort is particularly important since lead is a ubiquitous pollutant (in many areas, EBL's are attributable to more than one route of exposure), and since the impending regulations to deal with these exposures are

highly interdependent. The EPA Office Director Lead Committee (ODLC) is responsible for ensuring this coordination. The ODLC will monitor and report on lead-related activities to the Deputy Administrator on a continuing basis.

Specific Agency lead-related activities recently completed, underway or planned are described in the following sections. This document summarizes EPA's strategy for addressing lead exposures as envisioned by the Agency at the time of its publication. However, EPA's plans will be dynamic and evolving, and will be subject to change as new research and our ongoing programs indicate new priorities. Nevertheless, this strategy is meant to convey the Agency's deep concern about lead exposure, and its commitment to reducing associated risks to human health and the environment in the most efficient and cost-effective ways possible.

RESEARCH PROGRAM

Background

A focused research program is critical not only to develop sound regulations, but also to inform other Federal agencies and State and local governments on matters relating to abatement.

EPA will, in conjunction with CDC, HUD, and the Department of Commerce (through NIST), define, encourage and conduct the research needed by all governmental entities to (1) locate and assess, in terms of both geography and media, the most serious lead risks; and (2) develop methods and tools to cost-effectively reduce those risks. In this way, EPA can act as both a catalyst and an information resource to local abatement efforts.

Needs

While the toxicity of lead is well recognized, the biochemical mechanisms mediating its toxicity are unclear. Additional information is needed on certain aspects of exposure, including location, intensity, extent, accessibility, and bioavailability. In particular, the following efforts are needed:

- development of methods for identifying and mapping specific localities, neighborhoods and homes with high lead exposures from paint, soil, water and other sources (geographic "hot spots");

- determination of the relative contributions of these sources and pathways to EBL and environmental lead loading;

- development and evaluation of cost-effective abatement tools and methods;

- identification and evaluation of cleaner technologies for mining, smelting, processing and disposing of lead.

These research needs will be mentioned again as appropriate in the discussions of the various lead exposure pathways.

Planned/Recommended Actions

The Office Director's Lead Committee (ODLC) will establish an inter-office Lead Research Sub-Committee, with representation from the Office of Research and Development (ORD), the Office of Policy, Planning, and Evaluation (OPPE), and the program offices, to define and rank EPA lead research program objectives and activities. Particular emphasis will be placed upon efforts

likely to effectively address major sources of elevated blood lead levels.

The Lead Research Sub-Committee will report back to the ODLC at least annually, with a ranked-list of research objectives. Upon concurrence, the ODLC will include this list in their periodic reports to the Deputy Administrator.

EPA's research program will also be coordinated with the research activities of other government entities, including CDC and HUD, through periodic meetings. Development of the methods for identifying and mapping geographic "hot spots", for example, must involve CDC, HUD, public drinking water suppliers, and State and local governments.

ABATEMENT PROGRAM FOR "IN-PLACE" LEAD

LBP EXPOSURES

Background

LBP is the most serious source of children's exposure. The ATSDR estimates that 12 million children are exposed to lead-painted homes, and that almost six million are exposed to the highest concentrations, in homes built before 1940.

In 1971, under the Lead-Based Paint Poisoning Prevention Act (LBPPPA), HUD began restricting FHA mortgages for new dwellings to those with paint that did not contain more than one percent lead. In 1973, amendments to the LBPPPA reduced this level to 0.5 percent, and designated HUD as the principal Federal agency to eliminate the hazard of LBP in housing.

In 1987, Congress enacted the Housing and Community Development Act, which among other things required HUD to prepare plans for the abatement of lead-based paint hazards in housing. A plan, Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing, was released in December 1990. Another plan addressing lead-based paint abatement in public housing is scheduled for completion by late 1991.

In 1988, Congress directed EPA and HUD to effect a Memorandum of Understanding (MOU), under which EPA would provide technical and program development support to HUD. EPA and HUD signed the MOU in April of 1989, identifying the following areas of technical and managerial assistance:

- accreditation of abatement personnel,
- establishment of training and information centers,
- intergovernmental relations,
- identification of gaps in existing technical standards,
- new technical standard-setting, and
- public outreach and education.

EPA's current work is in two major areas:

- assistance in developing technical information necessary to effectively administer abatement programs, and
- program assistance to help HUD and public housing personnel administer the program, and ensure that contractor/designer personnel do their work well.

CDC has historically directed the targeted lead screening program that identified lead-poisoned children, and has long

advocated intervention to lower EBL in children resulting from LBP. Recently, the Assistant Secretary for Health asked CDC to design a program to eliminate the childhood lead problem, including abating lead paint in deteriorated housing. EPA provided assistance to CDC in performing a detailed cost/benefit analysis of the program. CDC is expected to further lower the PbB level of concern from 25 μg/dl, significantly increasing the number of children above the action level.

Other agencies also play a role in LBP abatement-related programs. In 1978, the CPSC limited all residential paint to 0.06 percent lead. OSHA is actively pursuing a reassessment of the worker protection issue. NIST is currently under contract to HUD on a number of research issues related to measurement techniques and procedures for lead in paint-films and dust.

LBP accounts for the largest single share of EBL. The LBP problem is both large and complex; the magnitude of these exposures adds to the difficulty and expense involved in finding and implementing solutions. This is exacerbated because, while EPA and other Federal agencies can plan and otherwise assist activities, these agencies are not equipped to perform most actual abatement work. This field work will likely be performed by property owners under State and local government programs.

Needs

It is essential to achieving the first of this strategy's objectives that exposure to LBP be significantly reduced. There is a clear need to coordinate the various strategic plans that EPA, HUD and CDC are developing for dealing with LBP. State and local governments must also become involved. Given the magnitude of the problem, these jurisdictions will work with property owners who will conduct most of the actual abatement work.

Guidance is needed on acceptable lead levels in dust resulting from LBP to enable programs to set goals to reduce these exposures. The relative contribution to dust from LBP and soil needs to be established; and improved measurement methods for soil, paint and dust need to be developed to reduce abatement costs. More cost-effective LBP abatement and management approaches have to be developed.

Responsibilities fall into three broad categories: direct abatement; technical support and research; and operational support. Abatement involves planning and implementing abatement projects; technical support and research involves providing consultation and information; and operational support involves managing the infrastructure needed to support abatement programs. Examples of the third category include PbB screening, training and lab accreditation programs.

Planned/Recommended Actions

HUD will maintain responsibility for abatement programs as stipulated in the LBPPPA, and State and local governments should maintain or assume responsibility for abatement operations. The infrastructure programs will be handled by either HUD or associated agencies. In some cases (e.g., lab accreditation programs and development of standard reference materials), these may continue to be performed by NIST under contract to HUD.

In EPA, both OTS and ORD will be involved in providing technical support to HUD. EPA will use its technical facilities and expertise to address research and technical questions on exposure and analytical methods. In its research and technical support functions, EPA will assist in establishing support programs, but the operation of these programs should reside more closely to ongoing abatement efforts.

A Lead-based Paint Task Force, made up of EPA, HUD, CDC, NIST, and other Federal agencies, has been resolving these important research areas by identifying and developing initiatives to reduce exposures to in-place lead. A supplemental Congressional appropriation provided resources for these initiatives.

EPA will continue to pursue integrated strategic planning with both CDC and HUD. EPA will continue to provide technical support to HUD, and will coordinate closely with NIST and other agencies. CDC will play a similar role with respect to medical issues.

EPA's Office of Toxic Substances and Office of Research and Development, along with HUD, CDC, OSHA, CPSC, and NIST, have met with lead industry representatives, and these meetings may lead to a joint industry-Government research program in the area of LBP testing and abatement.

OTS is currently pursuing the following specific initiatives:

- Completion of model curricula for three role-specific training courses (for inspectors, abatement supervisors, and workers) in 1991. A course for abatement project designers will be developed by 1992.

- Establishment of one or two training centers, which will aid in the dissemination of training courses throughout the country. These will be established in 1991.

- Provide worker training grants to major groups after the model course materials are completed. This will be funded during late 1991.

- Initiate a flagship lead center at a leading university, to serve as a focal point for information transfer and to stimulate quality training by other organizations. This center will be established during FY 1991.

- Promote state lead training programs with seed grants to at least two states. It is expected that this program will be funded in late FY 1991.

- Develop a risk communication strategy to inform the public, industry, labor, environmentalists, etc. on health risks associated with LBP exposure. This will be prepared in 1991.

- Study of low-cost repair and maintenance activities (management in place). The pilot study will be completed in spring 1991; the study will continue through 1993.

- Study of the long-term effectiveness of abatement methodologies. A pilot study is expected to be completed in FY 1991; field work is expected to begin in FY 1991 and continue through FY 1993.

- Preparation of a Report to Congress on the applicability of RCRA to wastes generated from LBP abatement. This will be submitted to OMB in 1991.

- Continuation of support to HUD on the Guidelines for LBP abatement in public and Native American housing. This includes analysis of data collected by HUD in a national study and demonstration project. This will occur throughout 1991.

- Development of a test protocol to evaluate the effectiveness and durability of LBP encapsulants. This will be completed in 1991.

- Evaluation of LBP test kits for commercial and home use (with NIST and ORD), throughout 1991.

- Development of key components of a laboratory accreditation program (with NIST and ORD), including the development of protocols and standard reference materials for various analytical methods, throughout 1991.

- Development of a community-based primary prevention strategy/program for lead poisoning. This effort, to be accomplished through a grant to the Alliance to End Childhood Lead Poisoning, will result in a guide for local governments to develop multi-media primary prevention programs. This guide should be completed in 1992.

URBAN SOIL

Background

Lead-contaminated urban soil -- soil contaminated by (1) non-industrial sources of lead such as paint, gasoline and household wastes (e.g., used oil); and (2) industrial sources, (e.g., battery recycling sites, mining and milling sites, and smelters) -- might contribute together as much as 30 percent of exposures leading to EBL in children. Next to LBP, urban soil and dust are believed to be the most important source of lead exposure for children in many urban residential areas. There are perhaps 12 million children exposed to high soil lead levels. These exposures are often related to exposures from LBP -- with exterior paint breaking down to contaminate the soil, and the soil being tracked into residences.

Although EPA's Office of Emergency and Remedial Response (OERR) currently has a number of programs underway to address soil, the focus is primarily upon soil contaminated by industrial sources. An exception to this is OERR's Three City Study. Under Section 111(b)(6) of SARA, OERR, with advice from ORD, CDC, the Department of Agriculture (USDA) and others, is conducting a $15 million pilot program in Boston, Baltimore and Cincinnati to evaluate the impact of removal of lead-contaminated soil and dust on children's PbB.

Boston was selected in 1987, based on evidence of high soil lead attributable to paint, and high EBL's in children. Baltimore and Cincinnati were selected in 1988. The studies use widely available (low technology) means of removing lead-contaminated soil and dust.

The study has three components:

- pre-abatement monitoring for PbB and environmental lead (i.e., soil, dust, water, and paint);
- abatement of soil and dust contaminated with lead; and
- post-abatement monitoring.

All three cities have completed pre-abatement monitoring and are in the process of abatement. EPA will complete the study by the end of 1992.

Needs

Although believed to be one of the two most serious sources of lead exposure, far less is known about urban soil than about either paint or drinking water. Data are limited on the location and severity of the problem, on the extent to which abatement is required, and on the best procedures for achieving abatement. More information is needed to better characterize the problem, to determine pathways of exposure, and to determine effective remediation methods, as well as to developing methods to identify geographic "hot spots".

Planned/Recommended Actions

EPA's Office of Solid Waste and Emergency Response (OSWER) is responsible for actions involving lead abatement at NPL sites. Given the current lack of knowledge regarding urban soil, priority will be given to develop information about the problem and on methods of remediation. EPA will seek to establish a joint effort with HUD, CDC and ATSDR to promote and assist a national effort to identify the locations, extent, bioavailability and severity of lead-contaminated soil.

EPA's Region 5 has initiated a multi-year (1991 to 1993), $1.1 million project called the Lead Education/Abatement Program, or Project LEAP, to address exposures from contaminated soil and paint. This project, which is the result of an OPPE/Region 5 Comparative Risk Project, includes education, intervention, abatement of public and private areas, waste minimization, source controls, and pilot clean-up.

In 1991, Region 5 will develop a database of exposure (various media and pathways) to be used in a geographic information system application. They will then map the data and prioritize geographic areas on which to concentrate efforts (education, pollution prevention, and abatement activities). The Region will also initiate pollution prevention discussions with air sources of Pb. They will coordinate the development of education and training activities with OTS, and request assistance from the States in the Region. Finally, they will determine the compliance status of major sources of Pb, and initiate enforcement action as appropriate.

Region 5 will refine and update the exposure database in 1992. They will also initiate pollution prevention discussions with sources of Pb in targeted areas, with the goal of achieving even greater multi-media reductions in Pb releases than included in EPA's Industrial Toxics Program. They will begin implementation of the education program (developing and distributing brochures, stickers, coloring books, etc.), and will begin intervention efforts (distribution of calcium supplements, etc.). Finally, they will perform an abatement pilot project in

a worst-case city, including abatement of soil, dust, and paint. This will be expanded to six areas or communities in 1993.

The interim and final results of this program will be extremely useful to other Regions. OTS and OERR will assist Region 5 to ensure that plans, progress, and results are communicated.

SUPERFUND SITES

In 1988, ATSDR published its report on lead poisoning in children, as required by SARA §118(f). In June 1990, ATSDR published a toxicological profile for lead, as directed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §104(i)(2).

More than 400 NPL sites have lead designated as a major contaminant or as a contaminant of concern in one or more media. These may include battery manufacturing or recycling sites, and mining and milling sites. The mining and milling sites, or residuals left by these activities, can involve large volumes and surface area, and can affect children, adjacent residents, and workers. The extent to which this contamination has contributed to EBL in the surrounding populations is unknown. PbB levels are not routinely measured at Superfund sites.

Soil lead levels are routinely measured at Superfund sites. At some mining sites, these levels have exceeded 10,000 ppm lead. OERR issued interim guidance last year indicating that lead soil levels at Superfund sites should be cleaned up to levels of 500 to 1000 ppm.

OSWER is working with ORD to provide methods for determining site-specific soil lead standards. One of the methods being developed is a biokinetic uptake model for lead.

In June 1990, OERR recommended a cleanup level of 15 ppb for lead in groundwater near Superfund sites if that water is usable for drinking water. This cleanup level, to be used until the lead drinking water standard is promulgated, is based upon analyses generated by the Office of Drinking Water (ODW) in developing the drinking water regulations using a 10 µg/dl PbB criterion.

Finally, an adjusted reportable quantity for lead will be completed. This will extend CERCLA §102(b) requirements for notification of release of hazardous substances to lead.

REGULATORY AND POLLUTION PREVENTION PROGRAM

EBL today is largely due to exposures to "in-place" lead previously deposited. Therefore, the highest public health priority is to abate exposures to this "in-place" lead -- with particular emphasis on LBP and lead-contaminated urban soil.

There are, however, some continuing sources of new lead -- particularly lead smelters and drinking water -- that warrant attention by EPA. These exposures, in contrast to those from "in-place" lead, are amenable to regulatory control. While EPA has limited regulatory authority to address "in-place" lead, it has ample authority under several statutes to restrict current and future consumption of lead which might add to new exposures. This may include both traditional emission control restrictions as well as pollution prevention measures that could, for example, result in the use of new smelting technologies to reduce the amount of lead waste generated. In addition, EPA may encourage pollution prevention measures to reduce the amount of lead in products.

This section summarizes the roles of the various EPA Offices in controlling new or ongoing lead pollution. All of these activities are under consideration, but a final decision has yet to be made regarding some of them. It is important to note that the activities summarized here, while significant and important in reducing lead contamination for specific localized populations as well as ecosystems, are not sufficient in themselves to adequately achieve the goal of significantly reducing the blood lead levels of children at highest risk. Achieving this objective is dependent upon significantly reducing risks due to LBP and urban soil.

OFFICE OF DRINKING WATER (ODW)

Background

Lead occurs in drinking water primarily due to corrosion of lead-bearing materials in water supply distribution systems (e.g., service lines, goosenecks, water meters) and in household plumbing (e.g., lead-soldered copper pipes, brass faucets, and brass fixtures). The highest levels are found in areas with corrosive waters, especially in older urban areas with lead service lines and mains, in homes with newly-installed lead solder (though now illegal) and brass faucets, and in buildings with drinking water coolers containing lead-lined tanks. Nearly everyone is exposed to lead in drinking water at some level. Concentrations vary widely from city to city, house to house, and even at the same tap depending on standing time of the water and temperature. There are very few data to make reliable nationwide

projections of current exposure. In 1986, EPA estimated that approximately 20 percent of the population was exposed to lead levels over 20 ppb in first-flush water. These data are being used to estimate baseline risks as part of the current reviews of the drinking water regulation and the lead National Ambient Air—Quality Standard (NAAQS).

Assuming the highest PbB to water lead relationships available in the literature, steady exposure to 20 ppb in drinking water would contribute between 2.5-3.5 μg/dl to a child's PbB. Most people are probably exposed to lower levels of lead in drinking water, and only a small fraction is exposed to much higher levels. Therefore, drinking water actually contributes a smaller amount for most of the population. On average, this is estimated at between one and two μg/dl.

EPA currently estimates that among U.S. children not living in deteriorating lead-painted housing, and not exposed to highly contaminated soils, approximately 3.5 percent have PbB above 10 μg/dl. Even if lead in drinking water could be completely eliminated, the percentage of children with PbB above 10 μg/dl would be reduced to 1.4 percent, although this shift would be relatively small -- from about 11 to 9 μg/dl on average.

Final Drinking Water Regulations

In 1988, EPA proposed revisions to the National Primary Drinking Water Regulation for lead under the SDWA. The major provisions of the proposal were for water suppliers to monitor lead levels in first-flush, standing water in high-risk homes, and to install and improve corrosion control and conduct public education if lead levels were above various targets. The current standard is a Maximum Contaminant Level (MCL) of 50 ppb measured at free-flowing taps located throughout the distribution system. The Agency is considering reducing this 50 ppb MCL to a 15 ppb first flush "Action Level" at the tap. The Agency is also considering requiring corrosion control, public education, source water monitoring and possible treatment, and lead service line replacement if the 15 ppb "Action Level" is exceeded in more than 10% of samples from high-risk homes (90th percentile). Further, EPA is considering whether to require all large systems (those serving more than 50,000 people) to optimize corrosion control for lead without jeopardizing overall water quality. ODW plans to promulgate the rule in April 1991.

ODW estimates that the final rule will result in the average PbB among children not exposed to paint or soil contamination hazards dropping from 5.3 to approximately 4.7 μg/dl. EPA estimates that actions by water systems to comply with the revised rule will reduce exposures for millions of Americans. Approximately half a million children will have their blood lead levels reduced to below 10 μg/dl. Although the average shift

will be relatively small, some children will have very significant decreases in blood lead.

Implementation

The SDWA requires drinking water regulations to be technologically and economically feasible. While corrosion control and lead service line replacement meet those criteria, it is difficult to predict the precise effectiveness of these treatments in reducing lead levels at household taps. ODW estimates that even after corrosion control, at least 17,000 of the 66,000 public water systems would exceed a 90th percentile level of 15 ppb.

In the final regulation, the Agency is considering whether to account for the limits of available technology by: 1) allowing systems that fail the target tap lead level to be considered in compliance if they demonstrate they have taken reasonable actions to minimize lead levels from sources under their control (e.g., corrosion control, source water treatment if required by States, and possible lead service line replacement); and 2) requiring systems that exceed the target tap lead level to regularly inform customers of easy ways that exposures from household plumbing can be minimized (e.g., not drinking first flush water after long standing times, checking for lead solder and pipes). ODW conducted a pilot public education program in Raleigh, North Carolina, that resulted in behavior changes to reduce lead exposures. Materials developed from this pilot study will be applied in the final rulemaking. ODW is developing brochures and other communication materials for use by water suppliers.

Finally, ODW will use university-based centers to train water suppliers, engineers, and regulators on practical ways to minimize water corrosivity and reduce lead levels in drinking water. This effort is being conducted in cooperation with national corrosion control experts and large metropolitan water suppliers.

Planned Actions

Several ongoing efforts should significantly reduce exposures to lead in drinking water. The 1986 Amendments to the SDWA banned the use of lead solder from public water supply systems, and from plumbing in residential or non-residential facilities connected to a public water system. The use of pipes or faucets containing more than eight percent lead was also banned. Given that much of the lead contamination comes from water standing in faucets and in interior plumbing, effective implementation of this ban is a high ODW priority. Although States have authority to enforce the ban, ODW has used a combination of regulatory and non-regulatory strategies to assist States and localities, including guidance and training for

Regions and States, an aggressive outreach program to educate consumers, and technical assistance to manufacturers of plumbing fixtures. OTS, in conjunction with ODW and industry, is considering using TSCA §6(a) to ban the sale of lead solder to plumbers and plumbing supply houses, to further ensure compliance.

The Lead Contamination Control Act (LCCA) of 1988 mandated recall of drinking water coolers with lead-lined water reservoir tanks, and banned the manufacture or sale of drinking water coolers with lead parts. ODW has developed a program to help schools correct lead contamination problems. This includes (1) distributing a guidance document and testing protocol to monitor for and remedy excessive lead levels in drinking water; (2) conducting training on how to follow the necessary procedures; (3) producing a training video; (4) publishing lists of brands and models of water coolers containing lead; and (5) publishing names of certified analytical laboratories.

ODW has also established a Safe Drinking Water Hotline to provide information on the LCCA, the lead ban, and other aspects of lead in drinking water.

OFFICE OF SOLID WASTE (OSW)

Resource Conservation and Recovery Act (RCRA)

Land Ban

In response to the 1984 Hazardous and Solid Waste Amendments to RCRA, OSW promulgated the "Third third" rule in June 1990. This rule specifies treatment standards (Best Demonstrated Available Technology, or BDAT) for hazardous wastes exhibiting the toxicity characteristic for lead, destined for land disposal. Earlier land ban regulations have also established treatment standards for lead in listed wastes. Land disposal includes any placement of hazardous waste in a landfill, surface impoundment, wastepile, injection well, or other placement on the land. This rule may establish more stringent requirements on temporary storage of spent batteries pending recycling. While BDAT for batteries is recovery of the lead, OSW is debating whether certain storage areas for lead-containing products awaiting recycling are considered wastepiles. Under the land ban, wastes must meet a treatment standard before being placed in piles. OSW has granted a two-year capacity variance for these storage areas pending a final decision on this issue. A decision to treat smelter storage areas as wastepiles could contribute to a reduction in recycling capacity, if smelters choose to close rather than meet the new requirements.

Toxicity Characteristic Leaching Procedure (TCLP)

OSW published a final rule in March 1990, under Subtitle C of RCRA, replacing the Extraction Procedure (EP) leach test with the TCLP. Under the EP, if a waste was a solid, homogeneous material, a sample of the waste could be tested using the structural integrity procedure (SIP), and did not have to be ground to pass through a 9.5 mm sieve the way all other wastes did. The TCLP no longer allows the use of the SIP for any wastes, although alternatives to the grinding requirement are being evaluated.

In addition, the final rule has a regulatory limit of 5 ppm for lead in the TCLP leachate, based on the current drinking water standard of 50 ppb. OSW will evaluate whether to change the regulatory limit once the revised drinking water standard, currently under development, is promulgated.

Both of these actions could cause additional secondary smelter slag to be considered hazardous waste, although other modifications to the standard setting procedure under consideration could offset the effect of the revised drinking water standard.

If additional slag is therefore characterized as hazardous waste, more secondary smelters will be required to comply with Subtitle C requirements. If, for example, a smelter is disposing of hazardous slag at its own on-site landfill, the smelter will have to comply with Subtitle C hazardous waste management requirements, including corrective action for all solid waste management units at the facility. These costs may cause some secondary smelters to choose to close.

Regulatory Determination on Mineral Processing Wastes

Lead slag from primary lead smelting is one of twenty mineral processing wastes currently excluded from regulation under RCRA Subtitle C. OSW is currently evaluating whether any of these twenty wastes should be regulated under Subtitle C, which would include permitting, manifesting, and on-site and off-site waste management activities. Subtitle C regulation may be warranted for lead slag because of its toxicity, documentation of damages, and widespread distribution of waste off-site. However, Subtitle C regulation could also contribute to economic disruption of the primary smelting industry; this is discussed further under the "Battery Cluster" section of this document. OSW plans to make its Regulatory Determination by June 1991.

Source Separation

OSW is considering issuing an Advance Notice of Proposed Rulemaking (ANPR) to solicit comments on a number of options to

encourage recycling. OSW is also studying current State battery recycling programs, and will develop and distribute information on the proper implementation of cost-effective, environmentally sound lead-acid battery recycling.

OFFICE OF TOXIC SUBSTANCES (OTS)

Toxic Substances Control Act (TSCA)

TSCA Lead Pollution Prevention Plan

The use of lead in products presents two types of exposures:

- exposures that occur from specific lead products during or immediately following production or use; and
- potential exposures that might occur from any lead-bearing product at some time in the future after disposal.

OTS has two regulatory objectives with respect to each type of exposure if they present unreasonable risks. In the first instance, OTS intends to (1) prevent new uses of lead, and (2) limit or, if appropriate ban, current uses of lead, if they present an unreasonable risk of injury to human health or the environment due to exposures generated during production or use.

For the second type of exposure, OTS plans to (1) encourage environmentally sound recycling of essential products which contain lead as essential component (e.g., lead acid storage batteries), and (2) explore the desirability and feasibility of discouraging overall consumption of lead in general.

Traditional pollution control rules, as well as pollution prevention efforts to reduce the amount of lead generated (including economic incentive or market-based approaches) may be suitable ways of addressing these exposures. OTS will examine both benefits and costs of possible actions, including an analysis of materials which would be substituted for lead in specific products. OPPE is working closely with OTS to evaluate these alternative approaches.

Prevention of new uses of lead posing unreasonable risks

While new lead uses continue to be developed, they are not subject to EPA scrutiny prior to commercial production. OTS is considering rulemaking to require advance notice from anyone intending to manufacture or process lead for a new use, in order to ensure that these uses do not pose unreasonable risks. This would afford EPA an opportunity to review the intended new use and, where risks are unreasonable, to either limit or ban it.

Phase-out of current uses of lead posing unreasonable risks

Several uses of lead that generate risk during use may be candidates for bans or restrictions under several Federal statutory authorities. OTS will perform a regulatory investigation on these uses, considering the benefits of each product relative to the risks, in order to determine if the risk is "unreasonable" and should be regulated under TSCA. Uses currently under consideration for a ban or restriction under TSCA include:

- brass and bronze plumbing fittings and fixtures (scheduled proposal January 1992),
- lead solder used to join water pipes (scheduled proposal January 1992), and
- lead in non-residential paint.

This list may be expanded in the future.

Battery recycling

In 1989, 1,012,155 metric tons of lead, approximately 80 percent of total domestic consumption, went into batteries. Because of the amount of lead involved, EPA is considering a rule to increase and maintain the rate of battery recycling, in order to reduce risks due to lead discarded in the environment and to primary lead mined.

Somewhere between 80 to 95 percent of spent batteries are currently recycled; however, lead acid batteries still comprised 65% of all lead in municipal solid waste in 1988. In addition, if the price of lead again falls, the market may not support even the current recycling rate. OTS is considering a rule to encourage battery recycling in an environmentally sound manner, and to sustain high recycling rates through world market price fluctuations. This rule is scheduled to be proposed in October 1991. EPA is involved in a regulatory negotiation, scheduled to run through April 1991, to determine the best methods to encourage maximum recycling.

The regulatory negotiation is considering a variety of approaches, including requiring battery manufacturers to include some specified fraction of recycled lead in the total amount of lead they need to produce new batteries; require the battery distribution chain to accept any spent batteries returned for recycling; a combination of both approaches, or another mechanism. This rule is particularly amenable to a market-based approach using economic incentives, and this option is being jointly explored by OPPE and OTS.

Additional potential restrictions of lead

OTS plans to publish an ANPR in 1991 under TSCA which will begin the process of examining the feasibility and desirability of additional restrictions on lead. If OTS determines that the risks of lead use are unreasonable, this will be followed by a Notice of Proposed Rulemaking (NPR) with proposed regulatory remedies. A variety of TSCA §6(a) rules are possible, including rules that would restrict general consumption of lead or provide economic incentives for reducing lead use, based on a balancing of the benefits to society of such reductions against their associated costs.

Final risk management decisions regarding the entire TSCA lead regulatory program will be made after consideration of comments received on the ANPR, status of other rules, and evaluation of an economic incentives analysis.

OFFICE OF AIR QUALITY PLANNING AND STANDARDS (OAQPS)

Background

The current lead NAAQS was set in 1978 at 1.5 $\mu g/m^3$, quarterly average. EPA's primary mechanism for attaining the NAAQS has been the reduction of lead in gasoline. In addition, lead emissions from industrial sources have been substantially reduced by State Implementation Plans (SIP's) designed to attain the particulate matter and lead NAAQS. Further reductions have also resulted from the New Source Performance Standard (NSPS) for smelters. In combination, these control programs have resulted in major reductions in air lead and in children's PbB. Available data indicate that the lead NAAQS is being attained in all areas except those near lead smelters, refineries and remelters. In these areas, exposures are due both to current emissions and to resuspension of soil contaminated by past emissions. OAQPS has developed a compliance strategy to bring these areas into attainment.

Strategy for achieving attainment of the current lead NAAQS

Twenty-nine sources (four primary smelters, 23 secondary smelters, one lead refinery and one lead remelter) have been identified under OAR's attainment strategy. Monitoring data from the sources with monitors indicate that 10 of the 11 do not attain the current NAAQS. Fifteen other smelters had modelled violations.

Non-attainment is due either to non-compliance with SIP emission limits, or to insufficient SIP emission limits which would not result in attainment of the NAAQS even with full compliance. Bringing an area into attainment with the NAAQS

typically involves three steps: (a) monitoring air quality, (b) developing control plans (SIP requirements), and (c) enforcing those regulations. However, in developing SIP requirements, a series of estimates must be made to determine the emission reduction needed to attain the NAAQS. Because of uncertainties in such estimates, some areas might not attain the NAAQS even when all sources in the areas are in compliance with their SIP requirements. When this occurs, EPA can initiate a SIP revision.

Because the 42 facilities in the OAQPS Extended Exposure Analysis affect only their immediate vicinity, the number of children at risk is small compared to the number of children at risk from LBP, contaminated urban soil or drinking water. However, non-attainment of the NAAQS adds significantly to the PbB level of these children. OAQPS estimates that the number of children near these facilities with PbB greater than 10 μg/dl would be reduced about 50 percent, from approximately 800 to 400, if the current NAAQS was attained in all areas of the country.

OAQPS's lead NAAQS attainment strategy, approved by the Deputy Administrator, contains four activities:

1. Expand monitoring to all 29 large lead sources.

   An expanded ambient monitoring initiative is underway to provide the necessary ambient monitoring database near stationary lead sources. Ambient monitoring networks will be initiated near each of the sources, and initial ambient air data analyses should be complete by June 30, 1991.

2. Conduct Federal inspections of all 29 sources.

   As scheduled, the Regions completed inspections of each of the 29 sources by December 31, 1990. Approximately six of these sources were found to be in violation.

3. Implement "leveraged enforcement" by coordinating with other program offices (multi-media approach).

   OAQPS has asked the Regions to develop enforcement actions by January 31, 1991; negotiate multi-media consent agreements by October 30, 1991; and achieve emission reductions expeditiously thereafter.

4. Designate, or require States to designate, non-attainment areas with respect to the lead NAAQS, and to require SIP revisions for these areas.

   EPA began the designation process in October 1990. States must respond by February 1991, and designations will be final by June 1992. Revised SIP's will be due by the end of 1993, and attainment of the NAAQS is expected by mid-1997.

NAAQS review

The Clean Air Act (CAA) requires that EPA review the NAAQS every five years and make any appropriate revisions. The scientific and technical assessment portion of the lead NAAQS review was completed in January 1990, when the Clean Air Scientific Advisory Committee gave final closure on the lead Staff Paper and the supplement to the Addendum to the Criteria Document. CASAC concluded that: (a) EPA should set a NAAQS that minimizes the number of children with PbB greater than 10 μg/dl, (b) a NAAQS at the upper end of the range under consideration (1.0 to 1.5 $\mu g/m^3$) offers little if any margin of safety, and (c) populations not quantitatively analyzed in EPA exposure modelling should be considered for setting a margin of safety on the NAAQS. CASAC also asked EPA to examine a NAAQS of 0.25 $\mu g/m^3$, if only to provide perspective on the higher alternatives.

OAQPS has analyzed the effect of NAAQS revisions by reviewing 42 lead point sources -- the 29 sources identified for the NAAQS attainment strategy, and 13 other sources that are not currently being pursued under the attainment strategy, but which may be in non-attainment if the NAAQS is lowered. OAQPS has estimated the number of children living near these sources who would have PbB greater than 10 μg/dl at each of the alternative NAAQS levels, and at background air lead concentrations. Approximately 126,000 children live near these sources. The results shown on the following table should not be interpreted as the absolute number of children at risk of elevated PbB from point source emissions because (1) they are based on a sample of sources, and (2) they do not specifically reflect the exposure characteristics of children living in homes with deteriorating LBP or children with an unusually strong tendency to ingest non-food items. In addition, the results do not represent the risks faced by other sensitive groups such as pregnant women (for fetuses) and adult men. However, the results are useful for comparing the relative protection afforded by alternative standard levels.

Estimated Number of Children Exceeding 10 μg/dl PbB under Alternative NAAQS Situations

NAAQS alternatives	No. children with PbB higher than 10 μg/dl*
1.5 $\mu g/m^3$ quarterly, today	800
1.5 $\mu g/m^3$ quarterly, enforced	400
0.75 $\mu g/m^3$ monthly	200
0.25 $\mu g/m^3$ monthly	150
Background (0.10 $\mu g/m^3$)	150

(Assuming water level = 8 μg/l, constant soil level)
(* - rounded to the nearest 50)

As the table shows, enforcing the current NAAQS would provide a greater incremental public health benefit than any of the contemplated NAAQS revisions. Most of the public health improvements would be near primary and secondary smelters.

While cost and technological feasibility are not to be considered in setting NAAQS, impacts on both primary and secondary smelters have implications for the broader integrated lead strategy. If none of the operating primary smelters could attain the NAAQS level selected during the Agency's review with readily available control technologies, the domestic primary smelting industry may simply shut down. This could result in increased importation of primary lead from countries with less stringent standards. Should such smelters close, they could be potential Superfund sites due to past contamination. In addition, impacts on secondary smelter capacity have implications for EPA's efforts to promote environmentally sound battery recycling, and are discussed in the following section on that topic.

Secondary Smelter NSPS

As part of the lead Pollution Prevention Program, OAQPS is initiating work on a revised NSPS for secondary smelters to ensure that new or reconstructed secondary smelters continue to apply best demonstrated control technology. New sources also must demonstrate compliance with the lead NAAQS. The analysis for this revision will consider the feasibility of performance standards based on alternative smelting technologies that would reduce lead discharges to other media as well as air.

OFFICE OF PESTICIDE PROGRAMS (OPP)

The last known use of lead as a pesticide active ingredient (lead arsenate for use on grapefruit) was voluntarily cancelled in 1989, generally due to concerns about the arsenate. EPA is currently revoking the associated tolerance levels.

OPP found lead as an inert ingredient in 13 pesticide products. As a result of this discovery, OPP issued data call-in notices to all of the registrants of these products. Out of the 13 products, 11 have been cancelled, one has been reformulated without lead, and one is pending cancellation, since the registrant has not responded to OPP's request.

OPP believes these actions have removed lead from pesticide products. There is, however, one possible area for additional action, and that involves active ingredients registered before 1984. OPP is undertaking a review of pesticides registered prior to 1984, in order to discover if any contain lead as an active

ingredient. If OPP finds lead as an active ingredient, it will initiate appropriate regulatory action.

OFFICE OF WATER REGULATIONS AND STANDARDS (OWRS)

Clean Water Act

EPA estimates that sewage sludge contributes less than 0.05 percent to total high hazard lead exposures, and virtually all of this occurs with incineration of sludge.

Section §405(d) of the Clean Water Act (CWA) requires EPA to propose and promulgate regulations establishing numeric limits and management practices regarding sludge that are adequate to protect public health and the environment from any reasonably anticipated adverse effects of each pollutant. Currently, EPA (40 CFR Part 257) regulates the land disposal of sewage sludge from publicly and privately owned treatment works. EPA has also proposed a rule under the Resource Conservation and Recovery Act (RCRA) and the CWA which would establish standards for the co-disposal of sewage sludge in municipal solid waste landfills.

Because Part 257 covers only a limited number of pollutants and use and disposal practices (land application and landfilling), EPA is developing more comprehensive regulations under 40 CFR Parts 501 (issued in May 1989) and 503 (scheduled to be promulgated in January 1992). These regulations are expected to reduce the number of children with PbB over 10 µg/dl (as a result of exposure to sludge) by 360, from 414 to 54. Lead is only one of the contaminants covered by these regulations. OWRS is constructing the final Part 503 rule to establish reasonable worst case protective limits for lead-bearing sludge, to avoid treating it as a "special case" requiring extraordinary treatment. OWRS believes that there is minimal risk from lead in sludge applied to land, and that tight restrictions on land application of lead-bearing sludge could force transfer to incineration, where exposures and risks are significantly greater. Furthermore, stringent lead limitations may not reduce lead concentrations in sludge because sources may be beyond the control of the POTW.

OFFICE OF ENFORCEMENT (OE)

OE is working with the Regional Offices and Headquarters Program Offices to implement a lead enforcement initiative to improve compliance with existing regulations. This cross-media, pollutant specific initiative will be the first of its kind undertaken by the Agency. The initiative likely will include filings under at least the CAA, CWA and RCRA.

OE is assisting in coordinating inspections and analysis of data collected from major sources of lead emissions. One focus will be the use of the CAA to reduce air emissions of lead from primary and secondary lead smelters, with an emphasis on compliance with SIP lead emission limits. This is discussed further in the section on OAQPS activities. OE will also focus on violations of lead limits in NPDES permits for industrial and municipal wastewater discharges and pretreatment requirements for industrial users of municipal wastewater treatment systems. Some RCRA actions likely will be brought against primary and secondary lead smelters. Other offices are also exploring the possibility of developing lead cases in other media. A national filing of enforcement actions against sources of lead emissions is expected in early July 1991.

The publicity surrounding this effort will highlight the significance of this cluster filing and also to underscore the Agency's commitment to improving regulatory compliance and dealing with lead problems.

APPENDIX I
GLOSSARY OF ACRONYMS

ANPR	Advance Notice of Proposed Rulemaking
ATSDR	Agency for Toxic Substance and Disease Registry
CAA	Clean Air Act
CASAC	Clean Air Science Advisory Committee
CDC	Centers for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPSC	Consumer Product Safety Commission
CWA	Clean Water Act
EBL	Elevated Blood Lead
HUD	Department of Housing and Urban Development
LBP	Lead-Based Paint
LBPPPA	Lead-Based Paint Poisoning Prevention Act
LCCA	Lead Contamination Control Act
LEAP	Lead Education/Abatement Program
MCL	Maximum Contaminant Level
NAAQS	National Ambient Air Quality Standard
NIST	National Institute of Standards and Technology
NPL	National Priority List
NPRM	Notice of Proposed Rulemaking
NSPS	New Source Performance Standard
OAQPS	Office of Air Quality Planning and Standards
ODLC	Office Directors Lead Committee
ODW	Office of Drinking Water
OE	Office of Enforcement
OERR	Office of Emergency and Remedial Response
OPP	Office of Pesticide Programs
OPPE	Office of Policy, Planning and Evaluation
ORD	Office of Research and Development
OSW	Office of Solid Waste
OSWER	Office of Solid Waste and Emergency Response
OTS	Office of Toxic Substances
OWRS	Office of Water Regulations and Standards
PbB	Blood Lead
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SIP	State Implementation Plan (OAQPS issues) or Structural Integrity Procedure (OSW issues)
SNUR	Significant New Use Rule
TCLP	Toxic Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
USDA	U.S. Department of Agriculture
µg/dl	Micrograms per Deciliter

APPENDIX II
CASE STUDY IN COORDINATION: THE BATTERY CLUSTER

Maintenance of environmentally-sound lead recycling capacity -- to prevent batteries from being discarded in the environment, to reduce the need to mine and smelt new lead, and to reduce lead concentrations near smelters to an acceptable level -- is an important part of this lead strategy. A number of regulations have been identified in this document which could affect the recycling of lead acid batteries.

The secondary smelting industry is essential to the continued availability of domestic battery recycling. The increased costs of pollution control associated with safe recycling could result in a significant part of this industry choosing to close rather than to install necessary equipment. Losses of this domestic recycling capacity could result in a net increase in risks to human health and the environment due to lead, because of the increased need to introduce primary lead into the domestic market, and other consequences based on the international market.

To avoid this outcome, the group of regulations affecting battery recycling (and smelter operation) were clustered so that they could be considered in a cohesive EPA plan to address lead exposures and encourage environmentally sound battery recycling.

Background

In 1989, approximately 80 percent of total domestic consumption of lead went into batteries. Although 80 to 95 percent of spent batteries are currently recycled, batteries still comprised 65 percent of all lead in municipal solid waste in 1988. EPA wants to encourage increases in the recycling rate. Further, the price of lead has fluctuated over time. If the price falls again, the market may not support even the current recycling rate.

Several regulations, policy determinations, and programs have been grouped together as the "Battery Cluster":

* Municipal Solid Waste Landfill Materials Separation ANPR (under consideration), possibly addressing batteries (OSW);

* Lead Acid Battery Recycling Proposed Rule, considering alternative battery recycling strategies (OTS);

* Proposed Revision of National Ambient Air Quality Standard (NAAQS) for lead, possibly requiring smelters

to meet more stringent air emission requirements (OAQPS);

* Proposed Revision to NSPS for Secondary Smelters (OAQPS);

* Regulatory Determination on Mineral Processing Wastes for Lead Slag, possibly requiring primary smelters to meet RCRA Subtitle C requirements (OSW);

* Land Disposal Restrictions ("Land Ban"): the "third-third" rule, including lead disposal and storage requirements for smelters (OSW - promulgated June 2, 1990);

* Revisions to Toxicity Characteristics for Hazardous Wastes (TCLP) (OSW - promulgated March 29, 1990); and

* Lead NAAQS Attainment Strategy/Smelter Compliance Plan, forcing smelters to meet lead air emission requirements of the current NAAQS (OAQPS - ongoing).

An ad hoc Task Force, chaired by OTS, assessed and made recommendations regarding the appropriate sequence and collective impact of the several impending decisions that could adversely affect secondary-smelting capacity. The task force consists of a subset of offices which have been directly involved in development of this strategy. The workgroup developed a regulatory plan, described below, outlining their recommendations.

Effects of Regulations

Many of these programs could affect the economic viability of smelters. The Land Ban, the TCLP, and downward revision of the lead NAAQS are all factors which could reduce the profitability of secondary smelters, causing owners to close the facilities or cut back production. Even enforcing the existing NAAQS could affect existing recycling capacity. Secondary smelters, however, are also recyclers of batteries and other lead scrap -- a very important component of the lead strategy. In addition, due to the international nature of the smelting industry, there are a number of other potential consequences that must be considered, including a reduction in domestic lead production and increased foreign production.

The Agency is considering all of the various linkages among potential actions affecting battery recycling. The regulatory investigations now planned or underway may or may not result in rules, but EPA wants to be sure that it considers in advance the consequences of each possible rule on the others, and on the lead industry as a whole.

From the list of actions outlined above, several could have particularly important effects on the industry. For example, OAQPS analyses indicate that a revised NAAQS, if adopted, would have an impact on domestic secondary smelting, or recycling, capacity. A TSCA rule addressing battery recycling could provide an incentive to continue smelter operation. If the Agency were to pursue restrictions on battery disposal, that also may encourage recycling. Another important action under review is a Regulatory Determination that may require primary smelters to comply with RCRA Subtitle C for lead slag. If EPA decides Subtitle C is applicable, it could have significant effects on the economic viability of the domestic primary smelting industry. If less primary lead were available, recycling would become more economically viable.

Other policies and actions outside the Agency, such as some State requirements for battery recycling, could either promote or counteract the effects of actions EPA is investigating.

This cluster of recent and impending regulatory decisions -- if carefully considered and coupled with a pollution prevention policy -- could conceivably encourage the smelting industry to adopt new technologies that would provide more efficient and cost-effective means of complying with the set of regulations.

Description of Cluster Product

Agency offices are working on a consolidated plan which is designed to meet virtually all of the program-specific goals of each regulation to address lead releases into a particular medium and at the same time address the unacceptable risks from lead across Agency programs.

The rules and programs included in the Battery Cluster are listed above and are being coordinated among program offices. Coordinating the goals, programs, and schedules of the participating offices will (1) improve the potential effectiveness of individual programs by reinforcing their goals through language in rules developed by other offices, and (2) help achieve the Agency's goals in encouraging the continued availability of environmentally sound recycling capacity for lead acid batteries. Specifically, the following coordination will occur between program offices, and is an example of the type of coordination necessary when dealing with a ubiquitous pollutant. Obviously, plans and schedules for specific rules may change as the Agency analyzes regulatory alternatives and applicable costs and benefits.

There are several linkages that EPA has identified. For example, the third potential regulation on the list is the lead NAAQS revision. If EPA lowers the NAAQS for lead, the new standards will not be in place until well after decisions are

made on the other actions in the cluster. However, the proposal date of any NAAQS revision would signal the smelting industry that new controls will be needed. Lowering the NAAQS could therefore potentially have a significant adverse economic effect on primary and secondary smelters. While economic impacts are not considered in setting a NAAQS, it is in the Agency's overall interest to encourage continued smelting/recycling capacity. Therefore, if a lowered NAAQS were to be proposed, EPA would want to have finished its regulatory negotiation on recycling in time to propose any recycling rule concurrently. The goal would be to provide industry with greater certainty on investing in the pollution control technologies needed to meet the new standards and ensure safe recycling.

Implementation

Agency offices will continue coordination as each of the regulations in the cluster is developed. The preambles of each of the rules will cross-reference and reinforce the other rules in the cluster, and will also state that the rule is a part of a consolidated Agency action to reduce risks from lead.

The ODLC will identify emerging regulations and programs which may affect smelting or battery recycling, and also new issues affecting the rules already included in the cluster. Coordination will include consideration of effects both on the timing and substance of the other rules in the cluster.

As mentioned previously, the ODLC will report back to the Deputy Administrator periodically, on the battery cluster as well as on other issues included in this strategy document.

TAB 6

Lead Message

A. Pb Is An Old And Serious Problem

The Federal Government sees Pb as a serious problem, especially for infants and children. Pb poisoning is the most common and socially devastating environmental disease of young children, and it is entirely preventable. The American Academy of Pediatrics calls it an "epidemic".

EPA is especially concerned about our children, because even at low levels, Pb affects their mental development. Pb exposures in a population result in diminished intelligence among large numbers of children, additional numbers with learning disabilities, and fewer with superior intellectual ability.

Some groups of adults also call for particular concern--especially pregnant women, as Pb in their blood can be transmitted to the fetus; and workers in some occupations, who can be exposed to dangerous levels of Pb.

Pb is not a new problem. For centuries, people have found Pb a very useful material for a wide variety of purposes. It is therefore ubiquitous. Pb contamination is a complex, multi-media problem with no easy or quick solutions.

- Exposures of concern result primarily from past practices. Pb already deposited in the environment poses the biggest problem.

B. We're Making Progress

The federal government has made considerable progress in the past decade or so. Children's blood Pb levels have dropped dramatically due to federal action--e.g., EPA's action to phase out Pb in gasoline. Serious Pb poisonings occur much less frequently, and deaths are rare, due to increased awareness, childhood screening, and environmental intervention. EPA estimates for U.S. Children under 6 years old w/ Elevated Blood Levels are:

>25 ug/dl:	10.7% (1976-80)	1.0% (1990)
>10 ug/dl:	91.0% (1976-80)	15.0% (1990)

But, science is now demonstrating serious health effects at lower levels than previously recognized. There is much left to be done.

C. EPA's Integrated Program

In response, **EPA has developed a cross-media Pb Strategy** to announce the actions already underway, and those we are planning. The goal of our Strategy is to reduce Pb exposures to the fullest extent practicable, with particular emphasis on reducing the risk to children.

> EPA sees Pb as a major example of **a truly multi-media problem**, for which traditional command and control techniques are inadequate. In addition to regulatory controls, EPA's strategy encourages recycling and seeks to reduce uses to the extent practicable.

D. Comprehensive Federal Approach

EPA realized that **addressing the problem separately would not be effective** or efficient. Agencies are **coordinating planning**--to integrate efforts across sectors, sets priorities for action, target further data needs, and educate the public about risk reduction. **EPA, HUD, and HHS/CDC all have major programs underway.** Others (OSHA, DOC, CPSC, e.g.) are also participating. Collectively, agencies are working to:

> o **get smart**, so that we can target the worst problems of existing exposures (due primarily to in-place Pb), and use the most efficient and effective techniques to reduce risk
>
> o **set priorities** by targeting "hot-spots," based on health risks, for remedial action on Pb-based paint and other sources, such as drinking water, point sources, and contaminants in commercial uses.
>
> o **look to the future**, by evaluating ways to prevent pollution and reduce exposures by eliminating unnecessary high-risk exposures and encouraging recycling.
>
> o **integrate efforts across sectors** -- provide leadership while emphasizing the importance of a partnership that includes state and local governments as well as the private sector; one important effort is developing training programs for workers.
>
> o **educate the public** to Pb risks and how they can minimize exposures; and **to warn them against precipitous and expensive actions that would actually increase the risks** to our children; alert people to the risks while avoiding public confusion or panic.

E. Federal Agency Activities

Activities in individual agencies include:

- **HHS/CDC** will pursue a surveillance program to target areas and populations of greatest concern and track progress in eliminating the disease. HHS is reassessing its definition of "poisoning," and expanding its programs in a major new initiative to eliminate childhood Pb poisoning.

- **HUD** has been directed by Congress to develop workable programs to deal with old Pb-based paint that is in many homes throughout the country.

- **EPA** has been supporting HUD's work, including training programs and technical evaluation for more efficient and effective remediation.

- **HUD and EPA** are co-chairing an interagency task force to address Pb-based paint in the Nation's housing. Several agencies are focusing attention on **in-place Pb paint as the primary source of risk** to children.

- **EPA** is evaluating contaminated **urban soil**, which is another major source. EPA just revised its Pb drinking water regulations in May 1991. **Drinking water systems** are a widespread, but less intense, source of exposures.

****For some more specifics about EPA activities, see Tab D****

F. What To Tell Parents And Homeowners

Pb still presents a serious health hazard to a large number of Americans, especially our children--and there are some things the public can do. We want to encourage risk identification and reduction by individuals.

- Have children up to 6 years old tested. Those with elevated blood Pb levels should have follow-up testing and the source of exposure should be found and removed.

- Keep dust levels in the home at a minimum, especially on windowsills and floors.

- Wash children's hands frequently--their hand-to-mouth activity is thought to be a major avenue of exposure.

- Use cold water for drinking and cooking, and flush out the tap if it has gone unused for more than six hours.

- Stabilize the soil around the home with groundcover to minimize movement of soil and dust.

- **Don't remove Pb-based paint yourselves.** Be cautious about especially about raising dust. Homeowners can have paint analyzed for Pb (houses built prior to 19-- are likely to have layers of Pb-based paint underneath). Hire a trained professional for removal work.

- Call state or local health department officials for information.

Message for Soil

- Soil might be an important source of exposure.
- We know far less about the scope of Pb-contaminated soil exposures than we know about other sources, including paint.
- It is clear that Pb-contaminated soil has resulted primarily from past practices--leaded gasoline deposition, deteriorating outdoor paint, point source emissions, and land disposal of leaded waste products.
  - -- Leaded gasoline combustion has decreased substantially with the phasedown of Pb in gasoline.
  - -- Implementation of 1978 EPA Pb air standards (NAAQS) has markedly deceased contamination from point sources (battery plants and smelters, e.g.).
  - -- Deteriorating Pb-based paint, however, continues to cause new contamination; it is thought to be the major source of urban soil Pb problems potentially affecting large numbers of children.
- EPA's Pb Strategy addresses the lack of information on urban soil contamination by recommending that we "seek to establish a joint effort with HUD, CDC, and ATSDR to promote and assist a national effort to identify the locations, extent, bioavailability and severity of lead-contaminated soil."
- Of special concern is ingestion of Pb-contaminated dust by young infants or children, due to normal hand-to-mouth activity. Contaminated soil is a problem both inside and outside houses. During play, children are exposed around houses and in playgrounds; contaminated soil and dust are also tracked and blown inside, creating another route of exposure.
- The Three-City Study, required under Superfund legislation, is an EPA-sponsored pilot study (in Baltimore, Boston, and Cincinnati); it is designed to give us a better understanding of soil contamination and how it contributes to elevated blood Pb levels in children.
  - -- Researchers sought out contaminated urban areas and are using simple methods to remove/control contaminated soil, then assess whether these methods are effective in lowering Pb contamination levels.
  - -- Data collection in the three cities began in 1988 and has progressed somewhat beyond the mid-point. Final results are expected to be released in late 1992.

- Other EPA research is planned to evaluate and develop more cost-effective ways to decontaminate high Pb soils, and to improve methods by which to detect Pb in soil.

- Soil contamination is also an issue at Superfund sites. The primary emphasis of the Superfund program is to clean up soil contaminated with industrial sources of Pb--e.g., smelters, mines, battery recycling operations.

- Approximately 1/3 of the sites on the Superfund National Priority List have Pb as either the major contaminant or one of the contaminants of concern.

EXECUTIVE SUMMARY

INTRODUCTION

This document presents the coordinated strategy of the U.S. Environmental Protection Agency to address the significant health and environmental problems our society is facing as a result of lead pollution. Lead is a multi-media pollutant; accordingly, the Agency plans to address lead contamination by coordinating its authorities across programs.

Because the strategy includes research, regulatory, enforcement, educational and training activities, we envision this document will be a living document, and that it will evolve as we begin to implement its various components. Several aspects of the strategy will entail continued coordination with other branches of government while others, such as regulations, will require full compliance with the Agency's rulemaking requirements.

THE PROBLEM

Lead is a highly toxic metal, producing a range of adverse health effects, particularly in children and fetuses. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Adverse effects have been found at lower and lower blood lead levels, and the Centers for Disease Control (CDC) anticipate lowering its level of concern from 25 µg/dl to a level within the range of 10 to 15 µg/dl.

Elemental lead is indestructible, and ubiquitous in the environment. Although the percentage of children with elevated blood lead has declined substantially over the last twenty years, with average blood lead levels dropping from 15 to 5 µg/dl, an estimated 15% of children still have blood lead levels over 10 µg/dl. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline), and lead in drinking water (moderate exposures in large populations). Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in products.

EPA'S STRATEGY

The goal of the strategy is to reduce lead exposures to the fullest extent practicable, with particular interest in reducing the risk to children, to avoid high blood lead levels. Two objectives will be used to set program priorities and gauge program success: 1) to significantly reduce the incidence of blood lead levels above 10 µg/dl (subject to revision in light of the forthcoming CDC report) in children while taking into account the associated costs and benefits, and 2) to

significantly reduce, through voluntary and regulatory actions, unacceptable lead exposures that are anticipated to pose risks to children, the general public, or the environment. These objectives will necessarily evolve as we better understand the risks posed by lead.

The strategy includes several major action elements:

- develop methods to identify geographic "hot spots",
- implement a lead pollution prevention program,
- strengthen existing environmental standards,
- develop and transfer cost-effective abatement technology,
- encourage availability of environmentally sound recycling,
- develop and implement a public information program, and
- aggressively enforce environmental standards.

EPA's research program, with other Federal agencies, will define, encourage, and/or conduct research needed to 1) locate and assess, in terms of both geography and media, serious lead risks, and 2) develop methods and tools to reduce those risks. EPA's Lead Research Sub-Committee will continue to define and rank lead research program objectives and activities.

EPA's abatement program focuses on in-place lead, and addresses lead-based paint exposures, urban soil and dust, and Superfund sites. Lead-based paint is the most serious source of children's exposures. Although the Department of Housing and Urban Development (HUD) has primary responsibility for the lead-based paint portion of this program, EPA is providing HUD with technical and administrative assistance. HUD's Lead-Based Paint Task Force, with representation from EPA, CDC, the National Institute of Standards and Technology (NIST) and other Federal agencies, is providing a mechanism for the exchange of information on Federal lead-based paint activities among the various agencies. EPA is funding a number of initiatives in support of reducing risk from in-place lead, and will continue to serve as the focal point and overall manager of technical support to HUD.

Lead-contaminated urban soil is believed to be the next most important source of lead exposure, but relatively little is known about it. Under the Superfund Amendments and Reauthorization Act (SARA), EPA is conducting a pilot program to evaluate effects of removing lead-contaminated soil and dust on children's blood lead.

More than 400 National Priority List sites have lead as an important contaminant. EPA has issued interim guidance on lead soil clean-up levels at Superfund sites, and is working to provide methods for determining site-specific soil levels.

EPA's regulatory and pollution prevention program includes efforts by a number of different offices to examine cost-effective ways to reduce lead exposures using both voluntary and regulatory approaches. This includes actions which will reduce lead exposures as part of larger environmental programs. Included are:

Lead in drinking water usually occurs at low levels, but affects much of the U.S. population. Lead levels are due to the leaching of lead from components of household plumbing and from public and private water distribution systems. The Office of Drinking Water is finalizing requirements for lead under the Safe Drinking Water Act. Lead-containing materials used in drinking water systems and water coolers have also been banned.

The Office of Solid Waste has issued a number of regulations involving smelter and other types of lead waste, and is currently reviewing policy in those areas.

The Office of Toxic Substances is examining the risks related to the use of lead in products. The Office is considering several rules which may restrict lead use in specific products (and possibly impose overall restrictions on use of lead as well) and would encourage environmentally sound lead-acid battery recycling.

The Office of Air Quality Planning and Standards is considering revising both the current National Ambient Air Quality Standard for lead and specific standards for smelters.

Action by the Office of Pesticide Programs has resulted in the cancellation or reformulation of pesticides containing lead; and work to phase out lead will continue where the risks exceed the benefits.

The Office of Water Regulations and Standards is working on regulations for lead, among other contaminants, in sewage sludge.

The Office of Enforcement will undertake a major initiative to improve compliance with regulations affecting sources of lead emissions.

LEAD-ACID BATTERIES

Fact Sheet -- Lead-Acid Battery Recycling

Amount of Lead Used in Batteries (1989)

- 80% of total domestic lead consumption in 1989 went into lead-acid batteries. This amounts to approximately 800,000 metric tons of lead in 1989.

Battery Recycling Rates

- While the recycling of lead-acid batteries has always been high, battery recycling rates have historically fluctuated in response to a number of factors, particularly the price of lead. In 1982, a significant drop in the price of lead contributed to a decline in the battery recycling rate to a low of 61%.

- Today, however, it is estimated that over 90% of all lead-acid batteries are being recycled.

Why are We Concerned About Increasing Recycling Rates?

- Given that most lead consumption in the U.S. is for lead-acid batteries, if even a small percentage of batteries are not recycled, this is still a significant amount of lead. For example, if 10% of all batteries were not recycled in 1989, this is equivalent to approximately 80,000 metric tons of lead.

- Recycling these batteries not only reduces the amount of lead discarded in the environment, but also minimizes the amount of virgin lead that must be mined and smelted.

State Lead-Acid Battery Recycling Legislation

- 28 States have enacted mandatory lead-acid battery recycling legislation.

- To encourage recycling, these States have prohibited the disposal of lead-acid batteries in municipal solid waste and usually also require retailers and wholesalers to take back used batteries from their customers.

- OSW is currently evaluating the effectiveness of State battery recycling programs. A report will be available by Fall 1991.

LEAD ACID BATTERY RECYCLING REGULATORY NEGOTIATION

Lead is a ubiquitous and toxic heavy metal used in a wide variety of consumer and industrial products including lead acid batteries. The largest percentage of lead consumed domestically is used in lead acid batteries. Lead acid batteries are also the major source of lead entering the municipal waste stream. EPA believes that lead acid battery recycling is necessary to reduce the amount of lead entering the environment.

EPA has established an Advisory Committee under the Federal Advisory Committee Act to negotiate issues regarding the regulation of lead acid battery recycling under section 6 of TSCA. EPA's negotiated rulemaking goal is to achieve and maintain 100% lead acid battery recycling in a manner that considers the environmental, economic, and social impact of any actions taken to accomplish this goal.

Participants on the Advisory Committee include State and local Government representatives, environmental groups, battery manufacturers, primary and secondary lead producers, lead industry trade associations, batteries retailers, automotive industry representatives, consumer and industrial battery representatives, and labor groups.

There are a number of recycling approaches under TSCA which may be considered as an outcome of the regulatory negotiated. EPA could require retailers, wholesalers, distributors or battery manufacturers to accept or take-back batteries from consumers to ensure they are recycled, and/or could require battery manufacturers to recover in spent batteries, a specified fraction of the toatl amount of lead they need to produce new batteries. The Agency could also provide economic incentives to encourage recycling by ensuring that recycling remains economically competitive with mining of primary lead.

The regulatory negotiation will conclude in April 1991, and any consensus reached will be used as a basis for a proposed battery recycling rule scheduled to be published by the end of 1991.

FACT SHEET ON MATERIALS SEPARATION

- On December 20, 1990, EPA proposed air emissions standards for new and existing municipal waste combustors (MWCs) which included mandatory materials separation requirements and a ban on the combustion of lead acid batteries.

- In response to comments on the MWC rule, the Agency began work on a similar materials separation requirement for landfills.

- Due to concerns about how this requirement for landfills could impact State and local governments, and differences between the landfill and combustor universe, the Agency is considering issuing instead an Advanced Notice of Proposed Rulemaking (ANPRM) presenting several options the Agency could use to foster recycling.

- One option under consideration is a mandatory material separation requirement which includes a ban on the disposal lead acid batteries.

- The ANPRM was intended to serve as a companion piece to the MWC rule.

- The MWC Rule, finalized on January 11, 1991, did not include the proposed material separation requirements.

- Red Border review of the ANPRM closed on January 15, 1991.

- Given that the material separation requirements were dropped from the MWC rule, we need to decide whether to proceed with the ANPRM.

Drinking Water

LEAD FACTS

Blood lead levels (most common index of exposure) in U.S. children have dropped 3-4 fold since late 1970's; from 15-20 micrograms per deciliter (ug/dl) on average to approximately 5 ug/dl or lower.

For several health effects including delays in early mental development, and biochemical alterations in brain neurochemistry and heme synthesis, no threshold for lead has been detected.

Between 2 and 3 million children are estimated to have blood lead levels above the EPA/CDC level of concern (10 ug/dl).

Drinking water contributes approximately 20% of total lead exposure in children on average.

New drinking water regulation will be issued in April, 1991; it will reduce exposures in millions of people by small increment (0.5 ug/dl on average); approximately half a million children will have blood leads reduced below level of concern.

Roughly 20% of schools may have water coolers with elevated lead levels (>20 parts per billion in first draw samples).

Testing for lead costs schools approximately $5-20 per outlet.

URBAN SOIL

February 5, 1991

THREE CITY URBAN SOIL LEAD DEMONSTRATION PROJECT

* INTERESTED GROUPS. CDC, ATSDR, state/local health agencies, environmental groups, lead research institutions.

* Section 111(b)(6) of the Superfund Amendments and Reauthorization Act(SARA) of 1986, set aside $15 million for "a pilot program for removal, decontamination, or other action with respect to lead-contaminated soil in one to three different metropolitan areas". The history of the amendment focused on soil contaminated with lead-based paint.

* EPA, with advice from CDC, U.S.D.A., and others is conducting a study in the cities of Boston, Baltimore and Cincinnati to evaluate the impact of soil/dust removal on child blood-lead levels. The project does not compare the effectiveness of different abatement techniques.

* The studies are being conducted by the City of Boston, Maryland Department of the Environment and the University of Cincinnati, with assistance from EPA and other technical experts.

* The project is divided into pre-abatement monitoring of child blood-lead levels and environmental lead (eg., soil, dust, water, and paint), abatement and post-abatement monitoring.

* Abatement of soil and dust is being conducted using low technology means of removal. To date, all three cities have initiated abatement activities.

* Each city will prepare an individual city report. Upon completion of the third report, EPA will prepare a final summarized report.

* The report for the City of Boston is scheduled for completion by the summer of 1991, for the cities of Baltimore and Cincinnati, by the summer of 1992. The summarized report is scheduled for completion by the end of 1992.

FACT SHEET FOR TSCA LEAD ANPRM

- Regulatory investigation exploring use of TSCA section 6 to:
  - Limit, phase out, ban or otherwise regulate existing uses of Pb which pose an unreasonable risk of injury to health or the environment.
  - Limit the amount of new Pb mined, and/or the amount of all Pb introduced into commerce.
- Potential rules would be based on traditional pollution control rules and/or pollution prevention efforts to reduce the amount of lead generated, including economic incentive or market-based approaches.
- One specific initiative described includes a possible phase-out of "high exposure" uses of lead, including brass and bronze plumbing fittings and fixtures, lead solder used to join water pipes and lead in non-residential paint.
- Another initiative includes the possibility of using TSCA to reduce general Pb production and use on the grounds that continued environmental loading of Pb presents an unreasonable risk of injury to health and the environment.
- The Pb acid battery recycling initiative is not discussed in the ANPRM because it was described in a separate Federal Register notice and is the subject of an ongoing regulatory negotiation.

TSCA Issues

Fact Sheet for "High Exposure" Uses of Lead

Several uses of lead that generate risk during use may be candidates for bans or restrictions under several Federal statutory authorities. OTS will perform a regulatory investigation on these uses, considering the benefits of each product relative to the risks, in order to determine if the risk is "unreasonable" and should be regulated under TSCA. Uses currently under consideration for a ban or restriction under TSCA include:

- brass and bronze plumbing fittings and fixtures (scheduled proposal January 1992),
- lead solder used to join water pipes (scheduled proposal January 1992).

Brass and Bronze Plumbing Fittings and Fixtures

* Amendments to the Safe Drinking Water Act of 1986 stipulate that plumbing brass contain no more than eight percent lead. However, The impact of this standard has been minimal because most brass products typically contain three to eight percent lead.

* Studies indicate that brass and bronze plumbing fittings and fixtures can be a significant source of lead leached into drinking water.

* EPA is evaluating the feasibility of using authority of the Toxic Substances Control Act to place additional restrictions on brass plumbing fittings to further reduce the amount of lead in drinking water.

* These restrictions may take the form of a prescribed lead limit or a performance type standard. The goal of the regulation will be to limit the risk posed by lead leaching from brass plumbing fixtures.

* A Notice of Proposed Rulemaking is expected to be published in January, 1992.

Lead Solder

* Safe Drinking Water Act of 1986 banned use of lead solder in plumbing supply systems connected to public water supplies (but the amendment did not require the States to ban use of Pb-containing solder on pipes connected to a non-public drinking water supply).

* The Office of Drinking Water (ODW) requested OTS in 1988 to initiate action under TSCA to ban Pb-containing solder use.

* ODW based its request on the following reasoning:
    * The Office of Water does not have sufficient authority under the SDWA to adequately control the risk for the entire population at risk, including 20 million people served from private drinking water sources.
    * ODW has little leverage to encourage states to look for violators and enforce bans.
* A Notice of Proposed Rulemaking is expected to be published in January, 1992.
* Affected parties include solder manufacturers and consumers.

FACT SHEET
Proposed TSCA Section 5(a)(2) Rule on Pb-Containing Compounds

Proposed Rule Requirements:

The proposed SNUR, as currently contemplated, would require persons to notify EPA at least 90 days before commencing the manufacture, import, or processing of any Pb-containing compound for a non-ongoing use. (EPA is in the process of identifying categories of ongoing Pb-containing compound use.)

Need for the Information:

EPA believes that this action may be necessary because Pb containing compounds may be hazardous to human health and any new use and associated activities may result in significant human exposure. The required notice would furnish EPA with the information needed to evaluate an intended use and associated activities, and an opportunity to protect against potentially adverse exposure to the chemical substances before it can occur.

LEAD NAAQS ATTAINMENT STRATEGY

Background

- Lead SIPs, in conjunction with reduction of lead in gasoline, have helped to reduce the number of areas violating the lead National Ambient Air Quality Standard (NAAQS).

- Ambient monitoring data near 16 primary and secondary lead smelters indicate the NAAQS continues to be violated.

- Other areas around primary and secondary lead smelters do not have a sufficient ambient monitoring network to determine whether the lead NAAQS is being attained.

Lead NAAQS Attainment Strategy

- EPA's pre-Clean Air Act strategy called for:

  - enhancing the ambient monitoring network by December 31, 1990 around the 29 targeted lead smelters,

  - completing federal inspections of the smelters by September 30, 1990 and issuing notices of violations where appropriate, and

  - issuing calls for SIP revisions by September 30, 1991 where leveraged enforcement cannot produce attainment.

- 1990 Clean Air Act Amendments now provide EPA with expanded authority to designate areas violating the lead NAAQS as nonattainment and require Part D SIP revisions to be prepared.

- States must submit SIPs within 18 months after EPA promulgation of nonattainment designations.

- Areas must attain the lead NAAQS as expeditiously as practicable but not later than 5 years after designation to nonattainment.

Status of Lead NAAQS Attainment Strategy

- 20 of 29 smelters had a minimum ambient monitoring network by December 31, 1990.

  - All but one smelter (now shut down) will have monitoring in place by June 30, 1991.

- All smelters currently operating (27 of 29) were inspected by September 30, 1990.

- Governors of affected States were notified in January 1991 that areas in which 16 smelters were located should be designated to nonattainment, with final designations expected by July 1991 and SIPs due by January 1993.

OWRS

Fact Sheet - Lead in Sewage Sludge

OFFICE OF WATER REGULATIONS AND STANDARDS (OWRS)

Clean Water Act

* EPA estimates that sewage sludge contributes less than 0.05 percent to total high hazard lead exposures, and virtually all of this occurs with incineration of sludge.

* Section §405(d) of the Clean Water Act (CWA) requires EPA to propose and promulgate regulations establishing numeric limits and management practices regarding sludge that are adequate to protect public health and the environment from any reasonably anticipated adverse effects of each pollutant.

* Currently, EPA (40 CFR Part 257) regulates the land disposal of sewage sludge from publicly and privately owned treatment works. EPA has also proposed a rule under the Resource Conservation and Recovery Act (RCRA) and the CWA which would establish standards for the co-disposal of sewage sludge in municipal solid waste landfills.

* Because Part 257 covers only a limited number of pollutants and use and disposal practices, EPA is developing more comprehensive regulations under 40 CFR Parts 501 (issued in May 1989) and 503 (scheduled to be promulgated in January 1992). These regulations are expected to reduce the number of children with PbB over 10 μg/dl (as a result of exposure to sludge) by 360, from 414 to 54. OWRS is constructing the final Part 503 rule to establish reasonable worst case protective limits for lead-bearing sludge, to avoid treating it as a "special case" requiring extraordinary treatment.

* OWRS believes that there is minimal risk from lead in sludge applied to land, and that tight restrictions on land application of lead-bearing sludge could force transfer to incineration, where exposures and risks are significantly greater. Furthermore, stringent lead limitations may not reduce lead concentrations in sludge because sources may be beyond the control of the POTW.

I. FACT SHEET FOR THE OFFICE OF ENFORCEMENT'S LEAD INITIATIVE

The EPA Office of Enforcement (OE) is working with the Regional Offices and Headquarters Program Offices to implement a lead enforcement initiative to assist in coordinating inspections and analyzing data collected from major sources of lead emissions. One focus will be the use of the Clean Air Act (CAA) to reduce air emissions of lead from primary and secondary lead smelters, with an emphasis on compliance with State Implementation Plans (SIP) lead emission limits. Our office will also focus on violations of lead limits in National Pollutants Discharge Elimination System (NPDES) permits for industrial and municipal wastewater discharges and pretreatment requirements for industrial uses of municipal wastewater treatment systems. RCRA actions against primary and secondary lead smelters are another potential avenue of enforcement. We are also exploring the possibility of developing lead cases in other media. A national filing of enforcement actions against sources of lead emissions is expected in early July of 1991.

Reid Hearing\February 21, 1991

Questions and Answers

1. How much housing in this country contains unacceptable levels of lead-based paint?

Based upon a national survey which we undertook in 1989-90, approximately 57 million units, about three-fourths of all units built before 1980, contain lead-based paint. Of these, 9.9 million units are occupied by families with children under the age of 7.

A much smaller number of units represent a priority hazard: 3.8 million units are occupied by children under the age of 7 and have peeling paint, excessive amounts of lead dust or both.

2. What is the income of families that occupy these "priority" units?

1.8 million have incomes above $30,000, the national median income. Two million are occupied by lower income families. In general, however, it is important to note that there is no correlation between the incidence of lead-based paint and family income. While studies indicate a higher incidence of elevated blood lead levels among poor children, it probably stems from poor physical condition of the home, nutritional habits and greater exposure to lead in water from older pipes.

3. Where is lead-based paint most commonly found?

Contrary to popular belief, more units have lead-based paint on the exterior than on the interior. Of the 57 million units with lead-based paint, 16 million have LBP only on the exterior, 11 million only on interior surfaces, and 28 million on both the exterior and interior.

4. Is there a relationship between lead-based paint and excessive levels of lead in dust and soil?

Yes, the chance of a home having excessive lead dust about twice as great if the home has high levels of interior lea based paint. Fourteen percent (10.7 million homes) have interi surface lead dust which exceeds HUD guidelines (200 micrograms/sq. ft on floors, 550 micrograms/sq. ft on window sills and 800

micrograms/sq. ft in window wells).

With regard to lead in soil, about 16 percent of all homes built prior to 1980 have concentrations of lead in soil around the house which exceeds EPA guidelines. This occurs four to five times more often than houses which do not have exterior lead-based paint.

5. What is the cost of testing and abating?

We estimate testing costs to be approximately $400/unit for single family and $320 for a multi-family unit. Factors such as size of the unit, need for supplemental testing and economies of scale which might be realized in multi-family structures may change these estimates considerably.

As for average abatement costs, the results of the FHA demonstration are as follows:

encapsulation - $5,500/unit
removal - $7,700/unit

Note that these numbers are preliminary and represent an "average" unit based upon the results of the HUD survey and do not include costs of relocation of people and their belongings or the disposal of hazardous waste.

What is also important to bear in mind is that many units can probably be done for far less. We estimate that approximately 55 percent of all units with lead-based paint can be abated for less than $2,500. Conversely, about 10 percent of such units would cost more than $15,000 to abate by encapsulation (almost 20 percent if done by a removal strategy). In the case of priority units (with children under 7 and non-intact lead based paint or excessive dust), the average cost is higher: $8,900 for encapsulation and $11,900 for removal.

6. What is the current capacity of the abatement industry?

Based upon the number of portable XRFs and qualified testing laboratories currently in operation, we estimate that only about 350,000-500,000 units could be tested annually.

As for abatement capacity, our information is only anecdotal but based upon our experience in the FHA demonstration, I would suggest it is limited. We had a difficult time finding qualified contractors and had to conduct aggressive outreach to find them in the areas where abatement was conducted. In addition, the quality of the abatement work was highly variable. Work often had to be redone to meet HUD standards. Capacity should improve as demand increases and as a result of stepped up training efforts which are taking place.

7. Describe your relationship with other Federal agencies.

- For the past two years, HUD has enjoyed excellent coordination and support from other Federal agencies. Our relationship with EPA is especially strong as the result of a memorandum of understanding on lead-based paint executed between the two agencies in April 1989.

- EPA has been very helpful in a number of ways including assistance in research design, laboratory support, the development and implementation of abatement training programs, and long term efficacy of abatement studies.

- Through the HUD-EPA research task force formed as a result of the MOU, we have engaged in continuing consultation with a number of other agencies including the Occupational Safety and Health Administration, the National Institute of Occupational Safety and Health, Centers for Disease Control, National Institute of Environmental Health Sciences, the National Institute of Standards and Technology, the Agency for Toxic Substances and Disease Registry, and Consumer Product Safety Commission. We have been very pleased with the level of cooperation.

8. What is the status of the interim containment plan for public housing?

Interim containment, as you know, is a maintenance oriented protocol designed to mitigate the lead-based paint and dust hazard for units not scheduled for abatement in the near future. Staff from my office and the Office of Public and Indian Housing are cooperating in this effort.

I believe that we are close to having a final draft plan ready for outside review and comment. I would like to see it ready for implementation later this year.

9. What actions have you taken to implement the strategy set forth in the CWP?

To date, we have taken the following actions:

-Established a Task Force on HUD Lead-Based Pai Regulations to develop common regulations for all HUD housi programs other than public housing (first meeting - 2/4/91).

-Created a Federal Inter-agency task force on property disposition to develop lead-based paint regulations which will govern the disposition of any Federal properties intended for human habitation (first meeting - 2/11/91).

-Preparing HUD Notice regarding lead-based paint to be provided to all tenants and purchasers of HUD related housing.

-Funded NIST to undertake research on identifying and evaluating inexpensive and reliable methods of lead detection.

-Continue to work with EPA under the MOU on a number of efforts including:

o investigation of the long term efficacy of various abatement techniques used in the FHA demonstration as well as some innovative repair and maintenance approaches which are less costly.

o development of a laboratory accreditation plan including the development of protocols and standard reference materials for various analytical methods.

o development of testing protocols to evaluate the effectiveness and durability of various encapsulants.

o development and implementation of various model training programs for lead inspection, project designers, abatement supervisors and workers.

-completing the FHA lead-based paint abatement demonstration report (4/91 completion).

-conducting the public housing lead-based paint abatement demonstration (2/91 completion).

-preparing the Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Public Housing (12/91 completion).

-completing the interim containment plan for public housing (Fall 1991 completion).

-will provide demonstration grants to local governments to build their capacity to undertake effective programs.

-will provide $25 million annually to assist low income families undertake abatement.

10. In Mr. Reilly's testimony, reference was made to the establishment of a policy level task force on lead based pair composed of the major concerned agencies to assist in carrying ou. the recommendations of the CWP. What will be HUD's role in this task force?

For the past two years we have had a working group with EPA and other agencies at the program level. The new policy level task force will provide guidance as necessary. Although the task force has not yet met, HUD intends to continue to carry out the goals and objectives of reducing the LBP hazard in housing and will work cooperatively with EPA as we have on interagency efforts at the program office level.

11. What is the current status of the LBP regulations implementing the Stewart B. McKinney Homeless Assistance Amendments Act of 1988?

The Department is currently in the process of preparing a regulatory amendment to 24 CFR Parts 941, 965, and 968 which will incorporate the provisions of the McKinney Act into the current regulations. We anticipate that this final rule will be effective for the Fiscal Year 1991 CIAP application processing cycle which begins in April 1991. However, until the revised regulations are in effect, the June 6, 1988 regulations as limited by the amendments to the Lead Based Paint Poisoning Prevention Act in Section 1088 of the McKinney Act, apply.

12. Have the Interim Guidelines been distributed?

The revised Interim Guidelines have been made available to the general public through our national publication distribution "HUD USER" (1-800-245-2691 or (301) 251-5154). Revisions to Chapter 8 of the Interim Guidelines (related to Worker Protection) were published in the Federal Register on September 28, 1990.

13. What is the status of training for all PHAs on the Interim Guidelines?

We conducted training on the Interim Guidelines in May of 1990 and will use this curriculum format as the basis for future training. We are working closely with EPA to finalize this training. A source of funding for the training continues to be a problem since there was not an allocation of funds for this purpose.

14. What is the status of the Public Housing Lead-Based Paint Abatement Demonstration? Why has it taken so long to get off the ground?

I am pleased to report that the demonstration is well under way. All testing has been completed. Abatement has already started in Omaha. In Albany and Cambridge, bids for the work will be sought in late February or early March. We expect to complete all abatement by the fall of this year.

There are several reasons for the delay:

1) finding public housing structures which possessed both lead-based paint and enclosed corridors and were scheduled for modernization proved very difficult.

2) PHAs were reluctant to participate because of liability concerns. Congress resolved this issue in the 1990 HUD Appropriations Act by providing up to $1 million in liability indemnification to participating PHAs.

3) the method of funding the demonstration was cumbersome. Congress directed HUD to use Comprehensive Modernization (CIAP) funds to carry out this effort. Unfortunately, the law requires that CIAP may only be provided to PHAs. As a result, each PHA had to execute a separate contract with the HUD demonstration contractor, resulting in major coordination and research management problems.

15. Have insurance requirements related to LBP been addressed?

The Department identified PHA insurance requirements an advised all PHAs by a notice issued on January 15, 1991. Due to the difficulty in securing an agent which could provide adequate insurance, the Department worked with the High Point, NC Housing Authority to develop a full, open and competitive bid solicitation for this coverage. The "Master Insurance Contract", as it is called, was awarded to the American Empire Surplus Lines Insurance Company and it has been in effect since October 1, 1990. PHAs may continue to seek other insurance coverage, through proper bidding procedures, as long as the identified requirements have been met and costs do not exceed those for the master policy.

16. Are risk assessment fees an allowable expense for PHAs?

Under the Comprehensive Assistance Program, risk assessment fees are an allowable expense for projects which have approved modernization funds.

17. How will LBP be treated under the CIAP and upcoming Comprehensive Grant (COMP Grant) programs?

Under the CIAP (which will continue for all PHAs/IHAs during FY 1991), PHAs/IHAs will be allowed to receive priority consideration for funding of Lead based paint testing and abatement activities, either as an emergency, if one exists, or in the category immediately after emergencies - Level 2A. Once the Comprehensive Grant Program is in place in FY 1992, those PHAs/IHAs that qualify for that program will be required to identify their

in the category immediately after emergencies - Level 2A. Once the Comprehensive Grant Program is in place in FY 1992, those PHAs/IHAs that qualify for that program will be required to identify their Lead Based Paint needs in their five year action plans and to prioritize the testing and abatement of their inventory.

18. What is the status of LBP testing and abatement effort to date?

The Department has limited data on PHA expenditures related to LBP activities. This is because the degree of needed LBP activity is not known at the outset of modernization work, hence, resultant funds used for LBP will be reflected as part of the total modernization effort. We are currently implementing changes which will permit us to capture data on expenditures, type of activity (testing v. abatement) and number of units. We also anticipate conducting a survey to assess the level of PHA activity for inclusion in the Congressional report which is due in December of 1991.

19. What monitoring and enforcement efforts are underway?

We are working closely with EPA and OSHA to develop the framework for a certification procedure which would ensure that qualified contractors are conducting abatement activities properly. Additionally, we are developing procedures for use by our field staff to monitor ongoing LBP testing and abatement activities at the PHAs. Simultaneously, we are developing procedures to assess the effectiveness of the Guidelines.

TAB 7

July 10, 1991

NOTE TO: Clarence Featherson

SUBJECT: Reid Qs & As

This is just a little note to let you know that these Qs & As were prepared for the Reid Hearing which took place in February. Some of the material is outdated. I have also attached a copy of the follow-up Qs & As which may be of some help to you as well.

If you have any questions, please feel free to give me a call. Good Luck!

Pat

-- Pat Grim
382-7605

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EPA's REACTION TO THE LEAD BILL

Q. What is EPA's reaction to the lead bill?

A. EPA supports the goals of the proposed legislation to minimize further releases of lead to the environment and reduce exposures to sources of environmentally dispersed lead.

In fact, EPA's strategy actually parallels the legislation in many ways. Additionally, the goal of EPA's lead strategy is also to reduce lead exposures to the fullest extent practicable, with a particular emphasis on the reduction of risk to children.

EPA is concerned that carrying out the mandate of this legislation will be extremely resource intensive and require a considerable amount of rulemaking. The Agency would like to consider alternatives that would potentially provide more environmental protection for less resource expenditure.

EPA believes the majority of the deadlines in the legislation are too short.

LEAD-BASED PAINT

Lead-based Paint in Housing

Q. How big is the lead paint problem in America's housing stock?

A. In 1989-1990, HUD undertook a major national survey to estimate the extent of lead paint hazards in the Nation's housing stock. The survey finds that of the 77 million privately owned and occupied homes built before 1980, 57 million, or 3/4 , contain lead-based paint. (Reference: Comprehensive and Workable Plan for Abatement of lead-based Paint in Privately Owned housing. A Report to Congress. Dec. 7, 1990, p. xvii)

ATSDR estimated that 3 - 4 million children have blood lead levels (above 15 ug/dl) at which significant health effects, i.e., reduced I.Q. and hyperactivity, can be observed. Most of these children are believed to have high exposures to lead as a result of lead based paint in their homes.

Q. How certain are we that a dwelling poses an exposure problem if lead paint is present?

A. The Agency needs to consider both present and future hazards resulting from exposure to lead coming from lead-based paint. Public health community experts on lead report that when a child is found who has a very high level of blood lead, there is generally an identifiable source, and that is

very frequently lead paint from the child's dwelling. Also, various factors such as dust lead levels, the extent of damaged surfaces, the number of chewable surfaces, as well as many other factors contribute to the degree of hazard present in a housing unit. The mere presence of lead may not represent an immediate hazard, but a high level of concern will always exist. For houses that contain lead but do not present an immediate hazard, not much is known about how likely this unit will become a hazard in the future. I believe it will be fruitful to undertake research which will help identify the dwellings posing the greatest risk for children, both now and in the future.

Q. Does EPA regard its lead-based paint work as important?

A. Lead exposure is a serious environmentally-caused health hazard to young children. As more is learned about the adverse health effects of lead, we need to increase our efforts to reduce lead exposures, particularly to young children. Lead is unique in that, unlike other chemicals that the Agency is involved with, high percentages of the children exposed at relatively low concentrations will be adversely affected while they are still young. This contrasts with the our usual posture of having to estimate the number of cancer cases out of a million people that may occur sometime in the future. For these reasons, we believe our work supporting HUD on lead-based paint is not only extremely important, but urgent as well.

Q. **We understand from the HUD national survey that some houses had high levels of lead in dust even though lead paint was not detected above the threshold level. How can we be sure we don't have homeowners needlessly spending their money on the wrong source of lead in the dust of their homes?**

A. This is a good point. The HUD survey did show that homes with LBP were four times more likely to have high levels of lead in dust than those homes without LBP. However, as you point out, there were homes without LBP that did have high levels of lead in dust.

This is a difficult issue to resolve. We want to avoid using children as "canaries" to determine if there is a lead exposure problem. At the same time we want to avoid spending money on the wrong source of lead.

In the long term, I would like to see EPA and other federal agencies develop an algorithm for identifying those homes where the risk is greatest. Such houses should receive a multi-media testing program: lead levels measured in paint, dust, exterior soil, and drinking water. The testing program would have to be planned so that a decision on the

most likely sources of lead could be made after the measurement results were in.

Lead-based Paint - Abatement and Accreditation

Q. **What does EPA believe its role should be in the development of new techniques of abatement?**

A. There are potentially fifty-seven million private homes requiring abatement. With abatement costs of $5,500 to $11,900 per dwelling, the cost to the nation would be between $31 to $68 billion dollars. This is a considerable expenditure of the nation's resources. If the lead problem is to be managed, we need techniques of abatement that provide the safety we desire at lower cost.

If EPA is to be a key player in the national effort to deal with lead-based paint, then the Agency needs to apply its experience and expertise toward the development of cost effective interventions for reducing exposure. Presently, potential approaches, such as repair and maintenance, are being developed by EPA with consultation from HUD staff.

As lead-based paint receives more public attention, market forces will produce abatement technologies and abatement related products. EPA and other federal agencies are in a

position to provide a means to evaluate new products, either through direct evaluation or through protocols that others can use to carry out an evaluation.

Q. **What are EPA's concerns with taking a lead role in lab accreditation?**

A. The Agency believes it is more appropriate for work with NIST to establish standard protocols, criteria and performance standards, and implement a voluntary accreditation program with respect to laboratory analysis of lead in various media. The program is to ensure participating laboratories produce reliable and accurate data for their clients.

Q. **What is EPA doing in the area of detection of lead in paint?**

A. EPA is working with NIST and HUD to improve the measurement technology of lead in paint. EPA has started a program with NIST designed to develop methods for adequately assessing the effectiveness of test kits and could expand its focus for other measurement methods. Our approach for laboratory proficiency is described above.

Q. What is EPA doing to evaluate the effectiveness of abatement techniques?

A. EPA is currently designing two studies directed at the issue of abatement effectiveness. One study is a follow-up to HUD's Demonstration of abatement methods (the DEMO), and has as its primary objective the determination of the effectiveness of the abatements in the years after the completion of the abatements. The other study is the Repair and Maintenance study of in-place management strategies.

The follow-up to the HUD DEMO is currently being designed. Although HUD has not released its report on the DEMO, HUD has given EPA access to data which has allowed EPA to plan for the follow-up study. The Repair and Maintenance study will apply good maintenance practices and will replace those strata, such as windows, that generate dust because of friction between surfaces.

Q. **What are some of the key uncertainties that exist that will make the development of a National Program to deal with the issue of lead based paint more difficult?**

A. One key issue is the discrimination of the source of the lead found in house dust. Our ORD is beginning the design of a pilot study to help with this area of uncertainty. The first phase of the EPA study, however, is to develop the measurement methods that will allow us to discriminate lead coming from different sources. The results of this study would be extremely useful to not only evaluate children with high blood levels but also aid in our search, with HUD, for some mechanism that will provide some predictive power to find housing units most in need of some abatement action. This is designed to hopefully prevent lead poisoning cases.

Another key area of uncertainty is the durability of various abatement techniques. Finding a cost-effective approach, on a national basis, will require significant more information of how effective various intervention approaches are and how long that continue to reduce lead exposures.

To cost-effectively reduce exposure, considering all sources, more information is needed about source contributions, including bio-availability of lead from different sources, and the associated costs of abatement techniques for paint, soil, dust. paint, soil, dust.

Q. **Why is EPA investigating strategies for abating lead-based paint that are not as complete as comprehensive abatement?**

A. o In place management strategies are mandated in the HUD Comprehensive and Workable Plan

o To reduce costs

The HUD Comprehensive and Workable Plan states, " In place management strategies will be developed and tested to see if lead hazards can be reduced to tolerable levels in individual housing units on a more cost-effective basis." Current cost estimates for full abatement range from $5,500 to $11,900 per house depending on the abatement method and the condition of the paint. This does not include the cost of testing and relocation. Repair and maintenance interventions would range from $1,500 for vacuuming and wet cleaning to $6,000 for a more complete intervention including replacement of windows. These interventions would be done in conjunction with routine renovation and would thus be less costly.

Q. **How is coordination of lead-based paint issues among Federal agencies accomplished?**

A. Through a Memorandum of Understanding (MOU) signed in April 1989, HUD and EPA co-chair an interagency Task Force on lead-based paint issues. This Task Force has representation from a variety of Federal agencies including Centers for Disease, National Institutes for Standards and Technology (NIST), National Institute for Environmental Health Sciences (NIEHS), Consumer Product Safety Commission (CPSC), National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), the Agency for Toxic Substance and Disease Registry (ATSDR), and the Department of State. This Task Force functions to facilitate the exchange of information among the various Federal agencies involved in lead-based paint activities. It also promotes the discussion and coordination of important related issues.

Research

Q. What has EPA done to draw together the different constituency groups regarding additional lead-based paint research?

A. EPA has undertaken an effort with other Federal and State agencies, the lead industry, environmental groups and labor groups to identify additional necessary lead-based paint research to complement current Federal efforts. On January 31 and February 1, 1991, a one and one-half day meeting took place at EPA at which over 65 participants heard current Federal lead-based paint activities and then met in three

workgroups to identify and develop plans for additional studies. The research topics identified include assessment methodology, abatement technology, and worker protection.

Accreditation - Training

Q. The strategy states that EPA is providing technical and managerial assistance to HUD in the area of the accreditation of abatement personnel. What steps have been taken by EPA to set up an accreditation program?

A. EPA and HUD have been discussing the options for the design and implementation of accreditation program. Both agencies are prepared to assist in the design of such a program but feel that the States should have the primary role in implementing an accreditation program.

Q. According to the strategy, EPA is developing role-specific training courses. What is the status of those training courses?

A. EPA plans to complete the development of two courses in FY 1991. Funds have been awarded to Tufts University to develop model course curriculum for a lead inspector training course. The other course we plan to develop in FY 1991 is a lead abatement supervisor training course. In FY 1992 EPA plans to complete the development of course curriculum for a worker training course and a project designer course.

Q. According to the strategy, EPA is planning to establish at least one training center that will aid in the dissemination of training throughout the country. What is the status of the training center development?

A. EPA is looking into several methods for the dissemination of training, one of which is the training center concept. We are currently examining other training center models, such as those in the asbestos and radon programs, here at EPA. We are also discussing training dissemination with labor groups, the National Association of Minority Contractors, and other interested parties to determine other methods of disseminating training.

Plans for Reducing Blood Lead Levels

Q. What are CDC's current plans for reducing the blood lead level of concern which presently stands at 25 ug/dl?

A. The CDC updated Lead Statement is under review and should be released by summer 1991. The Statement is expected to define childhood lead poisoning at $\geq$ 10 ug/dl, require case management at $\geq$ 15 ug/dl, and environmental intervention at $\geq$ 20 ug/dl or a persistent $\geq$ 15 ug/dl. The Statement will also call for universal screening of children.

LEAD ACID BATTERIES

Recycling

Q. **Why is lead-acid battery recycling desirable?**

A. The sheer **volume** of lead consumed **in lead-acid batteries** makes recycling important. In 1989, **80%** of total domestic lead consumption (**approximately 800,000 metric tons**) went into lead acid batteries. Given lead's **toxicity** and its **indestructible** nature once it enters the environment, it is **import to recycle** this significant quantity of lead consumed each year rather than introducing that lead into the environment.

Q. **Since most secondary smelters are not in compliance with federal environmental regulations, thereby placing children around secondary smelters at increased risk of lead exposure, should recycling of batteries be promoted?**

A. While it is true that **most secondary smelters are not in compliance with the National Ambient Air Quality Standards (NAAQS),** the same is true of primary smelters. Primary smelters are actually of equal or greater environmental concern than secondary smelters.

The EPA has developed a **strategy to bring both primary and secondary smelters into compliance** with federal regulations and is considering a revision of the lead NAAQS to further **reduce potential environmental risks from lead smelting.**

Also, if batteries are not recycled, this means more virgin lead must be mined and then smelted by primary smelters, which creates its own environmental risks.

Q. **How is the EPA planning to promote lead-acid battery recycling?**

A. **OSW** is currently **conducting an evaluation of the effectiveness of state lead-acid battery recycling programs. This study will provide** useful **information** on the **mandatory take-back model** adopted by other states.

Q. Why does EPA feel it is necessary to regulate the recycling of lead acid batteries when the present lead acid battery recycling rate is high?

A. EPA acknowledges that the current lead acid battery recycling rate is high - approximately 80-90 percent. The recycling rate has fluctuated considerably in the past

however. A significant decline in the recycling rate may result in the indefinite storage of batteries in garages, or improper disposal (landfills, incinerators, or along roadsides). EPA believes that a lead acid battery recycling regulation will decrease the need to mine and smelt primary lead and minimize the release of lead into the environment.

Q. What rulemaking process will the Agency use to regulate lead acid battery recycling?

A. The Agency is using a negotiated rulemaking approach which is a process that brings together representatives of various interests groups, and a federal agency, to negotiate the text of a proposed rule. To this end, EPA has established an Advisory Committee under the Federal Advisory Committee Act to negotiate issues regarding the regulation of lead acid battery recycling under section 6 of TSCA.

Q. What is EPA's goal of the negotiated rulemaking?

A. EPA's negotiated rulemaking goal is to achieve and maintain as close to 100% lead acid battery recycling as possible in a manner that considers the environmental, economic, and social impact of any actions taken to accomplish this goal.

Q. What approach will the Agency use to regulate lead acid battery recycling?

A. There are a number of recycling approaches under TSCA which may be considered as an outcome of the regulatory negotiation. EPA could require retailers, wholesalers, distributors or battery manufacturers to accept or take-back batteries from consumers to ensure they are recycled, and/or could require battery manufacturers to include a percentage of recycled lead in new batteries. The Agency could also provide economic incentives to encourage recycling by ensuring that recycling remains economically competitive with mining of primary lead.

Q. Who are the participants on the Federal Advisory Committee?

A. Participants on the Advisory Committee include State and local Government representatives, environmental groups, battery manufacturers, primary and secondary lead producers, lead industry trade associations, batteries retailers, automotive industry representatives, consumer and industrial battery representatives, and labor groups.

Q. What will be the outcome, and what is the timetable for the regulatory negotiation?

A. The Advisory Committee will negotiate the text of a lead acid battery recycling rule which will be used as the basis for a proposed rule. The proposed rule will be published in the Federal Register by the end of 1991. The regulatory negotiation will conclude in mid-April 1991.

Municipal Solid Waste Landfills

Q. **Is the Agency considering banning the disposal of lead acid batteries in municipal solid waste landfills?**

A. On December 20, 1991, EPA **proposed air emissions standards for new and existing municipal waste combustors** (MWCs) which **included mandatory materials separation** requirements and **a ban on the combustion of lead-acid batteries.** In response to comments on the MWC rule, the Agency began work on a similar materials separation requirement for landfills. However, due to concerns about how this requirement for landfills could impact state and local governments, and differences between the landfill and combustor universes, the Agency instead **is considering issuing an ANPRM presenting several options the Agency could use to foster recycling.** One option under consideration is **a mandatory material separation requirement** which **includes a ban on the disposal of lead acid batteries.**

Q. **Today, you are announcing a major action to promote environmentally sound recycling, yet, just recently, you dropped the source separation requirements, including lead acid batteries, from the Municipal Waste Combustors (MWC).**

A. The lead acid battery recycling program outlined today, has advantages over source separation because it seeks to **minimize the number of spent batteries entering the waste stream;** assure that **spent batteries are recycled at environmentally sound facilities; and utilize market-based approaches to the extent possible.**

DRINKING WATER

1. When will EPA promulgate a final lead rule?

The Agency plans on promulgating a final standard by the end of April, 1991.

EPA published a Notice of Availability (NOA) in the Federal Register requesting comment on new technical and economic analyses and on all additional information supporting the final rule that has been collected since the August 1988 proposal. Eighty-three comments have been received on the October 1990 NOA, in addition to 3,000 comments received on the August 1988 proposal. The Agency plans on promulgating a final standard in April to ensure that all comments are fully analyzed and responded to, and to ensure adequate time to complete necessary rulemaking and record documents.

2. Will EPA establish an MCL or a treatment technique to control lead in drinking water?

The Agency proposed a treatment technique standard in 1988 and still believes that such a standard is the most appropriate and effective approach to control lead in drinking water.

In developing the final regulatory approach, EPA has confronted several technical and legal obstacles:

1. Lead occurs in drinking water primarily as a corrosion by-product. Consequently, traditional approaches that remove contaminants at the treatment plant prior to distribution will only have a marginal effect on water lead levels.

2. The majority of lead contamination is attributable to privately-owned plumbing systems. As such tap water lead concentrations vary tremendously--both before and after optimal corrosion control treatment has been installed--which makes it difficult to establish protective numerical standards that can be applied nationwide (MCLs).

3. Because many of the lead bearing plumbing materials are privately-owned and outside the systems control water systems are limited in the remedies they can pursue.

Given these considerations, EPA proposed a treatment technique to regulate lead because it is technologically infeasible to ascertain whether the lead level at a tap, at a single point in time, represents effective application of the best available treatment technology. Based on the data received since the 1988 proposal, the Agency believes that a treatment technique standard would be the most effective way to regulate lead in drinking water.

3. What has EPA done to ensure that the lead solder ban [SDWA §1417] is being effectively enforced?

EPA has no authority to enforce the material ban or public notice requirements specified in SDWA §1417(a)(1) and (2). Nevertheless, EPA has undertaken several initiatives to help States effectively enforce the lead ban across the country:

- Informed Governors of requirements States have to fulfill to comply with the lead ban and public notice requirements. Today, all 50 States have adopted the lead ban.
- Issued policy guidance with criteria for deciding whether to withhold 5% of State's Public Water Systems Supervision grants when State fails to enforce §1417.
- Promulgated rules codifying public notice requirements and the definition of "lead free" plumbing materials.
- Developed information program for manufacturers, distributors, wholesalers and retailers of solders, fittings and plumbing fixtures.
- Developed model program that could be used by the States to enforce the lead ban.
- Developed and delivered training seminars to remedy program weaknesses to enforce the lead ban.
- Assessing alternatives to faucets and fixtures containing lead.

4. Why have schools failed to test the water to determine if it contains elevated lead levels?

The LCCA does not require schools to test for lead in drinking water. The Act only requires that schools which conduct tests to make the results available to the public. While the LCCA requires States to establish programs to assist schools, the law does not provide States with enforcement authority against schools that fail to comply voluntarily. Many States have not codified this program because they are not empowered to require testing. Ensuring that schools test for and remedy lead problems involves enormous resources currently not available to the States or school districts. It must be emphasized that the LCCA is a relatively new program for the States and schools, and comes at a time when severe budgetary constraints and competing demands (i.e., teacher pay raises, inflation, and an increasing number of environmental protection demands like asbestos, radon, indoor air, and lead) for limited resources deter States from undertaking new initiatives.

5. What initiatives has EPA undertaken to assist States in implementing the requirements of the LCCA?

The Lead Contamination Control Act (LCCA) provides EPA no effective authority to enforce the law's requirements. Despite the constraints imposed upon EPA by a lack of enforcement authority and requisite funding, the Agency is aggressively pursuing a program to improve compliance with the requirements of the LCCA.

- Developed and distributed guidance and testing protocol to assist schools in testing for and remedying lead contamination in drinking water.

- EPA guidance was delivered to 40,000 school districts in the U.S.

- Established lab protocol to determine the lead content in the interior lining of water cooler tanks.

- Published proposed list of non-lead free water coolers which initiated testing of water coolers in schools throughout the country. Finalized proposed list and published a new list of coolers that are classified non lead-free under LCCA.

- Provided technical support to the Consumer Product Safety Commission in its agreement with the Scotsman Group to recall Halsey Taylor water coolers that test above EPA's action level for schools (20 ppb).

- Conducted series of "train the trainer" seminars across the country to provide local school officials with the information on methods for testing and remedying lead contamination in school drinking water. 36 States have sponsored follow-up seminars and training.

- Completed training video on testing for lead in school drinking water and a "Hazards in Schools" booklet that addresses lead as well as asbestos, radon, and indoor air.

- Developing guidance document for day cares and nursery schools and for non-residential, non-school buildings.

- Drinking Water Hotline provides assistance to hundreds of callers each month (schools, non-building operators, water utilities, laboratory personnel, States, Federal agencies, local governments, journalists, and concerned citizens) who have questions on LCCA, the lead ban, and other lead issues.

6. Why did EPA delay the publication of the proposed and final lists of non-lead free water coolers, and thereby delay the Consumer Product Safety Commission's (CPSC) recall of water coolers with lead lined tanks?

It is true that EPA did not publish the proposed and final

list of coolers in the Federal Register before the statutory deadline. However, rather than delay State implementation of LCCA programs, the Agency distributed the proposed list to the States in January 1989, **in advance** of the statutory deadline for publishing the proposed list. This list was used to begin testing coolers throughout the country. The delay in publishing the list in the Federal Register was not the principal cause that delayed recall of water coolers. Because it was not possible to determine whether all water coolers in the specific model series had lead-lined tanks, CPSC needed additional information to develop the legal case necessary to order the recall. CPSC, in fact, began work with the manufacturers nine months before issuance of the final list--it was not a significant factor in delaying the order. Publishing the list, without the benefit of quality assurance procedures and standardized testing protocol, or without providing CPSC with requested information, could have resulted in legal complications, further delays, or only a partial recall.

TSCA ISSUES

Q. What actions is Office of Toxic Substances planning to take with regard to high exposure uses of lead?

A. Several uses of lead that generate risk during use may be candidates for bans or restrictions under several Federal statutory authorities. OTS will perform a regulatory investigation on these uses, considering the benefits of each product relative to the risks, in order to determine if the risk is "unreasonable" and should be regulated under Toxic Substances Control Act.

Q. What high exposure uses are currently being investigated by OTS?

A. High exposure lead uses currently under consideration for a ban or restriction under TSCA include:

- o brass and bronze plumbing fittings and fixtures (scheduled proposal January 1992),
- o lead solder used to join water pipes (scheduled proposal January 1992).
- o lead in non-residential paint

Q. What action has the Agency taken with regard to brass and bronze plumbing fittings? Has this action effectively reduced the amount of lead leached from these products?

A. Amendments to the Safe Drinking Water Act of 1986 stipulate that plumbing brass contain no more than eight percent lead. However, the impact of this standard has been minimal because most brass products typically contain three to eight percent lead.

Q. What specific action is OTS proposing to take to further limit the amount of lead leached from these products?

A. EPA is evaluating the feasibility of using the authority of the Toxic Substances Control Act to place additional restrictions on brass plumbing fittings to further reduce the amount of lead in drinking water. These restrictions may take the form of a prescribed lead limit or a performance type standard. The goal of the regulation will be to limit the risk posed by lead leaching from brass plumbing fixtures.

Q. Why is EPA developing a regulation to limit the amount of lead leached from plumbing fixtures when the National Sanitation Foundation is currently developing a similar standard (SF 61)?

A. EPA is working closely with industry to develop this voluntary standard, while at the same time developing a mandatory TSCA standard for lead leaching. These standards may be similar. EPA feels that because lead in drinking water effects so many individuals, a mandatory standard is essential.

Q. What action has the Agency taken with regard to lead in solder for drinking water use?

A. The Safe Drinking Water Act of 1986 banned the use of lead solder in plumbing supply systems connected to public water supplies. However, the amendment did not require the States to ban use of Pb-containing solder on pipes connected to a non-public drinking water supply.

Q. Why is EPA regulating lead solder under TSCA if it has already been banned by the Safe Drinking Water Act?

A. The 1986 SDWA amendments did not ban use of Pb-containing solder on pipes connected to a non-public drinking water supply. At any given time approximately one and a half million people live in houses less than five years old connected to non-public drinking water supplies. In addition, the Office of Drinking Water has little leverage to encourage states to look for violators and enforce bans. For example, there are no SDWA penalties for noncompliance with bans. In addition, although EPA can withhold five per cent of Federal funding for drinking water support to state programs, this amount is relatively inconsequential when compared to the total state expenditure on drinking water programs and thus might not present states with sufficient reason to undertake potentially costly enforcement programs.

Q. What is the goal of the proposed OTS solder rule?

A. Any action taken by OTS will be aimed at improving the enforceability of the existing ban on the use of lead solder for drinking water supply systems.

RCRA ISSUES

Q. What is the current regulatory status under the Resource Conservation and Recovery Act for primary lead slag?

A. Primary lead slag remains temporarily exempt from regulation as a hazardous waste under RCRA Subtitle C until the Agency issues a final regulatory determination on the status of the waste. This determination will be made by May 20, 1991.

Q. What is the likely outcome of the regulatory determination?

A. Agency management has not made a decision as to the final regulatory status of primary lead slag. Removal of the exemption from RCRA Subtitle C is being seriously considered, however, due to the waste's inherent toxicity and documented damages attributed to the current disposal methods.

Q. What is the likely impact of Subtitle C regulation of primary lead slag?

A. The primary lead smelting industry would face potentially severe economic consequences, possibly forcing the closing of some facilities. Lost production would either be replaced by increased production at remaining primary smelters, increased production at secondary smelter, or imports.

Q. How do the land disposal restrictions apply to lead battery storage areas?

A. In the Third Third final rule (55 FR 22520, June 1, 1990), EPA stated that lead acid batteries when stored are not considered to be land disposed because the battery is considered to be a container (55 FR 22567-8). Battery storage typically is subject the subpart J storage standards relating to secure storage, secondary containment in some instances, and other requirements.

Q. How do the land disposal restrictions apply to lead slag from mineral processing?

A. At this time, the land disposal restrictions do not apply to lead slag from mineral processing. The current schedule for establishing land disposal treatment standards for lead slag from mineral processing includes a proposal of standards in April 1993 and promulgation in March 1994.

Q. How would a change in the lead maximum contaminant level (MCL) affect the RCRA regulations?

A. A change in the lead MCL would not directly affect the RCRA regulations since the regulations are not automatically lined to the MCLs. Any changes to the regulations (such as the Toxicity Characteristic Rule) would need to be proposed and promulgated independently.

The Corrective Action program does not have specific regulatory numbers; the numbers provided in the appendix to the preamble are guidelines, and the program uses the most current Agency numbers. The listing and delisting programs also use current Agency numbers, and the delisting program already incorporates proposed MCL changes.

Q. **What is the status of debris from lead abatement as "hazardous waste"?**

A. EPA was required through the 1990 Conference Report on its budget to send a report to Congress concerning the handling of solid waste generated by lead abatement activities. The report should provide Congress with estimates of the fraction of waste generated in lead abatement activities which is likely to be regarded as hazardous under RCRA (i.e., trigger TCLP criteria). (Waste generated in lead abatement activities is tested using current TCLP criteria of hazardousness.) EPA will use samples collected by HUD's contractor in testing solid waste generated in the HUD Demo for the report. This report in review within the Administration and OTS expects to be able to provide a final report by March of 1991.

Preliminary examination of the analytical results indicates that several categories of debris on which EPA has received data do not meet the hazardousness criteria set by RCRA regulations. Several debris categories either are highly variable or frequently do not meet the hazardousness criteria as currently defined, or do not have adequate data. EPA will be working with HUD to obtain additional debris samples to reduce this uncertainty. The additional analysis EPA will be conducting will be designed to allow a more comprehensive evaluation of the cost impacts of the proper disposal of the debris which is deemed hazardous. EPA believes that it is appropriate that abatement debris, if it meets the hazardousness criteria specified under RCRA, be treated as a hazardous waste.

NAAQS ATTAINMENT STRATEGY

Q. How will the lead NAAQS Attainment Strategy assure that the lead NAAQS will be met?

A. The Agency's strategy is based on a pragmatic approach to the lead problem. It focuses on the continuing sources of lead emissions. First, the inspection/enforcement strategy is designed to enforce those regulations which currently exist and apply lead sources. Second, the monitoring strategy is intended to determine whether or not the existing regulations, even if enforced, are adequate to attain the lead NAAQS. Finally, in those areas where we have existing ambient data which show violations, it is the Agency's intent to designate these areas to nonattainment.

The designation process is the first step in requiring revised SIPs for lead. The SIP process is the mechanism that states use to demonstrate that they will attain and maintain the NAAQS. The SIP, among other things, will identify the source of the problem and prescribe the enforceable emission limitations which must be implemented to assure that the standard will be attained. The SIP must be submitted within 18 months of the date EPA promulgates the nonattainment designation and must demonstrate that the area will attain the standard as expeditiously as practicable, but no later that 5 years from the date of the nonattainment designation. EPA is expecting to promulgate lead nonattainment designations in July 1991 for those areas where existing air quality data indicate violations of the NAAQS. As data become available from the enhanced monitoring networks, the Agency will make appropriate designations.

Ultimately, enforcement of the emission limitations contained in SIPS is the key to attainment of the lead NAAQS throughout the U.S. The Agency is committed to the vigorous enforcement of emission limitations for lead.

NAAQS

Q. When will EPA complete the review of the lead NAAQS and propose appropriate revisions?

A. EPA plans to announce the results of the review and any proposed revisions of the NAAQS in October 1991.

Q. Why has the review of the lead NAAQS taken so long?

A. Preparation of the revised criteria document is an extensive undertaking. It fully assesses available health effects

information; provides numerous opportunities for review by the public and CASAC; and, assures that NAAQS are scientifically sound.

Q. Given the significant reduction in air lead levels due to gasoline-in-lead phasedown, why is a revised NAAQS necessary?

A. Elevated air lead levels near point sources still pose an unacceptable health risk. In addition, health effects information clearly suggest a revision is appropriate because adverse health effects have been observed at increasingly lower blood lead levels.

Q. How does the lead NAAQS fit into EPA's lead strategy?

A. The broad goal of the EPA's integrated lead strategy is to reduce lead exposures to the fullest extent possible by reducing all pathways of exposure. The NAAQS is an important component of the strategy because exposure to air lead occurs not only through direct inhalation, but also through the ingestion of air lead that is deposited on dusts, soils and crops. The lead NAAQS should help EPA achieve the objective of reducing the number of children with blood lead levels greater that 10 ug/dl. It is also important to have a lead NAAQS in place to assure that lead recycling is carried out in an environmentally sound manner. The lead NAAQS allows the Agency to ensure that the rate at which lead is introduced in the air, and thus loaded in the environment, does not increase dramatically, even as the volume of lead in use and reuse increases.

LEAD-ACID BATTERIES

Fact Sheet -- Lead-Acid Battery Recycling

Amount of Lead Used in Batteries (1989)

- 80% of total domestic lead consumption in 1989 went into lead-acid batteries. This amounts to approximately 800,000 metric tons of lead in 1989.

Battery Recycling Rates

- While the recycling of lead-acid batteries has always been high, battery recycling rates have historically fluctuated in response to a number of factors, particularly the price of lead. In 1982, a significant drop in the price of lead contributed to a decline in the battery recycling rate to a low of 61%.

- Today, however, it is estimated that over 90% of all lead-acid batteries are being recycled.

Why are We Concerned About Increasing Recycling Rates?

- Given that most lead consumption in the U.S. is for lead-acid batteries, if even a small percentage of batteries are not recycled, this is still a significant amount of lead. For example, if 10% of all batteries were not recycled in 1989, this is equivalent to approximately 80,000 metric tons of lead.

- Recycling these batteries not only reduces the amount of lead discarded in the environment, but also minimizes the amount of virgin lead that must be mined and smelted.

State Lead-Acid Battery Recycling Legislation

- 28 States have enacted mandatory lead-acid battery recycling legislation.

- To encourage recycling, these States have prohibited the disposal of lead-acid batteries in municipal solid waste and usually also require retailers and wholesalers to take back used batteries from their customers.

- OSW is currently evaluating the effectiveness of State battery recycling programs. A report will be available by Fall 1991.

LEAD ACID BATTERY RECYCLING REGULATORY NEGOTIATION

Lead is a ubiquitous and toxic heavy metal used in a wide variety of consumer and industrial products including lead acid batteries. The largest percentage of lead consumed domestically is used in lead acid batteries. Lead acid batteries are also the major source of lead entering the municipal waste stream. EPA believes that lead acid battery recycling is necessary to reduce the amount of lead entering the environment.

EPA has established an Advisory Committee under the Federal Advisory Committee Act to negotiate issues regarding the regulation of lead acid battery recycling under section 6 of TSCA. EPA's negotiated rulemaking goal is to achieve and maintain 100% lead acid battery recycling in a manner that considers the environmental, economic, and social impact of any actions taken to accomplish this goal.

Participants on the Advisory Committee include State and local Government representatives, environmental groups, battery manufacturers, primary and secondary lead producers, lead industry trade associations, batteries retailers, automotive industry representatives, consumer and industrial battery representatives, and labor groups.

There are a number of recycling approaches under TSCA which may be considered as an outcome of the regulatory negotiated. EPA could require retailers, wholesalers, distributors or battery manufacturers to accept or take-back batteries from consumers to ensure they are recycled, and/or could require battery manufacturers to recover in spent batteries, a specified fraction of the toatl amount of lead they need to produce new batteries. The Agency could also provide economic incentives to encourage recycling by ensuring that recycling remains economically competitive with mining of primary lead.

The regulatory negotiation will conclude in April 1991, and any consensus reached will be used as a basis for a proposed battery recycling rule scheduled to be published by the end of 1991.

FACT SHEET ON MATERIALS SEPARATION

- On December 20, 1990, EPA proposed air emissions standards for new and existing municipal waste combustors (MWCs) which included mandatory materials separation requirements and a ban on the combustion of lead acid batteries.

- In response to comments on the MWC rule, the Agency began work on a similar materials separation requirement for landfills.

- Due to concerns about how this requirement for landfills could impact State and local governments, and differences between the landfill and combustor universe, the Agency is considering issuing instead an Advanced Notice of Proposed Rulemaking (ANPRM) presenting several options the Agency could use to foster recycling.

- One option under consideration is a mandatory material separation requirement which includes a ban on the disposal lead acid batteries.

- The ANPRM was intended to serve as a companion piece to the MWC rule.

- The MWC Rule, finalized on January 11, 1991, did not include the proposed material separation requirements.

- Red Border review of the ANPRM closed on January 15, 1991.

- Given that the material separation requirements were dropped from the MWC rule, we need to decide whether to proceed with the ANPRM.

Drinking Water

LEAD FACTS

Blood lead levels (most common index of exposure) in U.S. children have dropped 3-4 fold since late 1970's; from 15-20 micrograms per deciliter (ug/dl) on average to approximately 5 ug/dl or lower.

For several health effects including delays in early mental development, and biochemical alterations in brain neurochemistry and heme synthesis, no threshold for lead has been detected.

Between 2 and 3 million children are estimated to have blood lead levels above the EPA/CDC level of concern (10 ug/dl).

Drinking water contributes approximately 20% of total lead exposure in children on average.

New drinking water regulation will be issued in April, 1991; it will reduce exposures in millions of people by small increment (0.5 ug/dl on average); approximately half a million children will have blood leads reduced below level of concern.

Roughly 20% of schools may have water coolers with elevated lead levels (>20 parts per billion in first draw samples).

Testing for lead costs schools approximately $5-20 per outlet.

URBAN SOIL

February 5, 1991

THREE CITY URBAN SOIL LEAD DEMONSTRATION PROJECT

* INTERESTED GROUPS. CDC, ATSDR, state/local health agencies, environmental groups, lead research institutions.

* Section 111(b)(6) of the Superfund Amendments and Reauthorization Act(SARA) of 1986, set aside $15 million for "a pilot program for removal, decontamination, or other action with respect to lead-contaminated soil in one to three different metropolitan areas". The history of the amendment focused on soil contaminated with lead-based paint.

* EPA, with advice from CDC, U.S.D.A., and others is conducting a study in the cities of Boston, Baltimore and Cincinnati to evaluate the impact of soil/dust removal on child blood-lead levels. The project does not compare the effectiveness of different abatement techniques.

* The studies are being conducted by the City of Boston, Maryland Department of the Environment and the University of Cincinnati, with assistance from EPA and other technical experts.

* The project is divided into pre-abatement monitoring of child blood-lead levels and environmental lead (eg., soil, dust, water, and paint), abatement and post-abatement monitoring.

* Abatement of soil and dust is being conducted using low technology means of removal. To date, all three cities have initiated abatement activities.

* Each city will prepare an individual city report. Upon completion of the third report, EPA will prepare a final summarized report.

* The report for the City of Boston is scheduled for completion by the summer of 1991, for the cities of Baltimore and Cincinnati, by the summer of 1992. The summarized report is scheduled for completion by the end of 1992.

FACT SHEET FOR TSCA LEAD ANPRM

- Regulatory investigation exploring use of TSCA section 6 to:
  - Limit, phase out, ban or otherwise regulate existing uses of Pb which pose an unreasonable risk of injury to health or the environment.
  - Limit the amount of new Pb mined, and/or the amount of all Pb introduced into commerce.
- Potential rules would be based on traditional pollution control rules and/or pollution prevention efforts to reduce the amount of lead generated, including economic incentive or market-based approaches.
- One specific initiative described includes a possible phase-out of "high exposure" uses of lead, including brass and bronze plumbing fittings and fixtures, lead solder used to join water pipes and lead in non-residential paint.
- Another initiative includes the possibility of using TSCA to reduce general Pb production and use on the grounds that continued environmental loading of Pb presents an unreasonable risk of injury to health and the environment.
- The Pb acid battery recycling initiative is not discussed in the ANPRM because it was described in a separate Federal Register notice and is the subject of an ongoing regulatory negotiation.

TSCA Issues

Fact Sheet for "High Exposure" Uses of Lead

Several uses of lead that generate risk during use may be candidates for bans or restrictions under several Federal statutory authorities. OTS will perform a regulatory investigation on these uses, considering the benefits of each product relative to the risks, in order to determine if the risk is "unreasonable" and should be regulated under TSCA. Uses currently under consideration for a ban or restriction under TSCA include:

- brass and bronze plumbing fittings and fixtures (scheduled proposal January 1992),
- lead solder used to join water pipes (scheduled proposal January 1992).

Brass and Bronze Plumbing Fittings and Fixtures

* Amendments to the Safe Drinking Water Act of 1986 stipulate that plumbing brass contain no more than eight percent lead. However, The impact of this standard has been minimal because most brass products typically contain three to eight percent lead.

* Studies indicate that brass and bronze plumbing fittings and fixtures can be a significant source of lead leached into drinking water.

* EPA is evaluating the feasibility of using authority of the Toxic Substances Control Act to place additional restrictions on brass plumbing fittings to further reduce the amount of lead in drinking water.

* These restrictions may take the form of a prescribed lead limit or a performance type standard. The goal of the regulation will be to limit the risk posed by lead leaching from brass plumbing fixtures.

* A Notice of Proposed Rulemaking is expected to be published in January, 1992.

Lead Solder

* Safe Drinking Water Act of 1986 banned use of lead solder in plumbing supply systems connected to public water supplies (but the amendment did not require the States to ban use of Pb-containing solder on pipes connected to a non-public drinking water supply).

* The Office of Drinking Water (ODW) requested OTS in 1988 to initiate action under TSCA to ban Pb-containing solder use.

* ODW based its request on the following reasoning:
    * The Office of Water does not have sufficient authority under the SDWA to adequately control the risk for the entire population at risk, including 20 million people served from private drinking water sources.
    * ODW has little leverage to encourage states to look for violators and enforce bans.
* A Notice of Proposed Rulemaking is expected to be published in January, 1992.
* Affected parties include solder manufacturers and consumers.

FACT SHEET
Proposed TSCA Section 5(a)(2) Rule on
Pb-Containing Compounds

Proposed Rule Requirements:

The proposed SNUR, as currently contemplated, would require persons to notify EPA at least 90 days before commencing the manufacture, import, or processing of any Pb-containing compound for a non-ongoing use. (EPA is in the process of identifying categories of ongoing Pb-containing compound use.)

Need for the Information:

EPA believes that this action may be necessary because Pb containing compounds may be hazardous to human health and any new use and associated activities may result in significant human exposure. The required notice would furnish EPA with the information needed to evaluate an intended use and associated activities, and an opportunity to protect against potentially adverse exposure to the chemical substances before it can occur.

LEAD NAAQS ATTAINMENT STRATEGY

Background

- Lead SIPs, in conjunction with reduction of lead in gasoline, have helped to reduce the number of areas violating the lead National Ambient Air Quality Standard (NAAQS).

- Ambient monitoring data near 16 primary and secondary lead smelters indicate the NAAQS continues to be violated.

- Other areas around primary and secondary lead smelters do not have a sufficient ambient monitoring network to determine whether the lead NAAQS is being attained.

Lead NAAQS Attainment Strategy

- EPA's pre-Clean Air Act strategy called for:
  - enhancing the ambient monitoring network by December 31, 1990 around the 29 targeted lead smelters,
  - completing federal inspections of the smelters by September 30, 1990 and issuing notices of violations where appropriate, and
  - issuing calls for SIP revisions by September 30, 1991 where leveraged enforcement cannot produce attainment.

- 1990 Clean Air Act Amendments now provide EPA with expanded authority to designate areas violating the lead NAAQS as nonattainment and require Part D SIP revisions to be prepared.

- States must submit SIPs within 18 months after EPA promulgation of nonattainment designations.

- Areas must attain the lead NAAQS as expeditiously as practicable but not later than 5 years after designation to nonattainment.

Status of Lead NAAQS Attainment Strategy

- 20 of 29 smelters had a minimum ambient monitoring network by December 31, 1990.
  - All but one smelter (now shut down) will have monitoring in place by June 30, 1991.

- All smelters currently operating (27 of 29) were inspected by September 30, 1990.

- Governors of affected States were notified in January 1991 that areas in which 16 smelters were located should be designated to nonattainment, with final designations expected by July 1991 and SIPs due by January 1993.

OWRS

Fact Sheet - Lead in Sewage Sludge

OFFICE OF WATER REGULATIONS AND STANDARDS (OWRS)

Clean Water Act

* EPA estimates that sewage sludge contributes less than 0.05 percent to total high hazard lead exposures, and virtually all of this occurs with incineration of sludge.

* Section §405(d) of the Clean Water Act (CWA) requires EPA to propose and promulgate regulations establishing numeric limits and management practices regarding sludge that are adequate to protect public health and the environment from any reasonably anticipated adverse effects of each pollutant.

* Currently, EPA (40 CFR Part 257) regulates the land disposal of sewage sludge from publicly and privately owned treatment works. EPA has also proposed a rule under the Resource Conservation and Recovery Act (RCRA) and the CWA which would establish standards for the co-disposal of sewage sludge in municipal solid waste landfills.

* Because Part 257 covers only a limited number of pollutants and use and disposal practices, EPA is developing more comprehensive regulations under 40 CFR Parts 501 (issued in May 1989) and 503 (scheduled to be promulgated in January 1992). These regulations are expected to reduce the number of children with PbB over 10 μg/dl (as a result of exposure to sludge) by 360, from 414 to 54. OWRS is constructing the final Part 503 rule to establish reasonable worst case protective limits for lead-bearing sludge, to avoid treating it as a "special case" requiring extraordinary treatment.

* OWRS believes that there is minimal risk from lead in sludge applied to land, and that tight restrictions on land application of lead-bearing sludge could force transfer to incineration, where exposures and risks are significantly greater. Furthermore, stringent lead limitations may not reduce lead concentrations in sludge because sources may be beyond the control of the POTW.

I. FACT SHEET FOR THE OFFICE OF ENFORCEMENT'S LEAD INITIATIVE

The EPA Office of Enforcement (OE) is working with the Regional Offices and Headquarters Program Offices to implement a lead enforcement initiative to assist in coordinating inspections and analyzing data collected from major sources of lead emissions. One focus will be the use of the Clean Air Act (CAA) to reduce air emissions of lead from primary and secondary lead smelters, with an emphasis on compliance with State Implementation Plans (SIP) lead emission limits. Our office will also focus on violations of lead limits in National Pollutants Discharge Elimination System (NPDES) permits for industrial and municipal wastewater discharges and pretreatment requirements for industrial uses of municipal wastewater treatment systems. RCRA actions against primary and secondary lead smelters are another potential avenue of enforcement. We are also exploring the possibility of developing lead cases in other media. A national filing of enforcement actions against sources of lead emissions is expected in early July of 1991.

Reid Hearing\February 21, 1991

Questions and Answers

1. How much housing in this country contains unacceptable levels of lead-based paint?

Based upon a national survey which we undertook in 1989-90, approximately 57 million units, about three-fourths of all units built before 1980, contain lead-based paint. Of these, 9.9 million units are occupied by families with children under the age of 7.

A much smaller number of units represent a priority hazard: 3.8 million units are occupied by children under the age of 7 and have peeling paint, excessive amounts of lead dust or both.

2. What is the income of families that occupy these "priority" units?

1.8 million have incomes above $30,000, the national median income. Two million are occupied by lower income families. In general, however, it is important to note that there is no correlation between the incidence of lead-based paint and family income. While studies indicate a higher incidence of elevated blood lead levels among poor children, it probably stems from poor physical condition of the home, nutritional habits and greater exposure to lead in water from older pipes.

3. Where is lead-based paint most commonly found?

Contrary to popular belief, more units have lead-based paint on the exterior than on the interior. Of the 57 million units with lead-based paint, 18 million have LBP only on the exterior, 11 million only on interior surfaces, and 28 million on both the exterior and interior.

4. Is there a relationship between lead-based paint and excessive levels of lead in dust and soil?

Yes, the chance of a home having excessive lead dust is about twice as great if the home has high levels of interior lead-based paint. Fourteen percent (10.7 million homes) have interior surface lead dust which exceeds HUD guidelines (200 micrograms/sq. ft on floors, 550 micrograms/sq. ft on window sills and 800

micrograms/sq. ft in window wells).

With regard to lead in soil, about 16 percent of all homes built prior to 1980 have concentrations of lead in soil around the house which exceeds EPA guidelines. This occurs four to five times more often than houses which do not have exterior lead-based paint.

5. What is the cost of testing and abating?

We estimate testing costs to be approximately $400/unit for single family and $320 for a multi-family unit. Factors such as size of the unit, need for supplemental testing and economies of scale which might be realized in multi-family structures may change these estimates considerably.

As for average abatement costs, the results of the FHA demonstration are as follows:

encapsulation - $5,500/unit
removal - $7,700/unit

Note that these numbers are preliminary and represent an "average" unit based upon the results of the HUD survey and do not include costs of relocation of people and their belongings or the disposal of hazardous waste.

What is also important to bear in mind is that many units can probably be done for far less. We estimate that approximately 55 percent of all units with lead-based paint can be abated for less than $2,500. Conversely, about 10 percent of such units would cost more than $15,000 to abate by encapsulation (almost 20 percent if done by a removal strategy). In the case of priority units (with children under 7 and non-intact lead based paint or excessive dust), the average cost is higher: $8,900 for encapsulation and $11,900 for removal.

6. What is the current capacity of the abatement industry?

Based upon the number of portable XRFs and qualified testing laboratories currently in operation, we estimate that only about 350,000-500,000 units could be tested annually.

As for abatement capacity, our information is only anecdotal but based upon our experience in the FHA demonstration, I would suggest it is limited. We had a difficult time finding qualified contractors and had to conduct aggressive outreach to find them in the areas where abatement was conducted. In addition, the quality of the abatement work was highly variable. Work often had to be redone to meet HUD standards. Capacity should improve as demand increases and as a result of stepped up training efforts which are taking place.

7. Describe your relationship with other Federal agencies.

- For the past two years, HUD has enjoyed excellent coordination and support from other Federal agencies. Our relationship with EPA is especially strong as the result of a memorandum of understanding on lead-based paint executed between the two agencies in April 1989.

- EPA has been very helpful in a number of ways including assistance in research design, laboratory support, the development and implementation of abatement training programs, and long term efficacy of abatement studies.

- Through the HUD-EPA research task force formed as a result of the MOU, we have engaged in continuing consultation with a number of other agencies including the Occupational Safety and Health Administration, the National Institute of Occupational Safety and Health, Centers for Disease Control, National Institute of Environmental Health Sciences, the National Institute of Standards and Technology, the Agency for Toxic Substances and Disease Registry, and Consumer Product Safety Commission. We have been very pleased with the level of cooperation.

8. What is the status of the interim containment plan for public housing?

Interim containment, as you know, is a maintenance oriented protocol designed to mitigate the lead-based paint and dust hazard for units not scheduled for abatement in the near future. Staff from my office and the Office of Public and Indian Housing are cooperating in this effort.

I believe that we are close to having a final draft plan ready for outside review and comment. I would like to see it ready for implementation later this year.

9. What actions have you taken to implement the strategy set forth in the CWP?

To date, we have taken the following actions:

-Established a Task Force on HUD Lead-Based Paint Regulations to develop common regulations for all HUD housing programs other than public housing (first meeting - 2/4/91).

-Created a Federal Inter-agency task force on property disposition to develop lead-based paint regulations which will govern the disposition of any Federal properties intended for human habitation (first meeting - 2/11/91).

-Preparing HUD Notice regarding lead-based paint to be provided to all tenants and purchasers of HUD related housing.

-Funded NIST to undertake research on identifying and evaluating inexpensive and reliable methods of lead detection.

-Continue to work with EPA under the MOU on a number of efforts including:

o investigation of the long term efficacy of various abatement techniques used in the FHA demonstration as well as some innovative repair and maintenance approaches which are less costly.

o development of a laboratory accreditation plan including the development of protocols and standard reference materials for various analytical methods.

o development of testing protocols to evaluate the effectiveness and durability of various encapsulants.

o development and implementation of various model training programs for lead inspection, project designers, abatement supervisors and workers.

-completing the FHA lead-based paint abatement demonstration report (4/91 completion).

-conducting the public housing lead-based paint abatement demonstration (2/91 completion).

-preparing the Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Public Housing (12/91 completion).

-completing the interim containment plan for public housing (Fall 1991 completion).

-will provide demonstration grants to local governments to build their capacity to undertake effective programs.

-will provide $25 million annually to assist low income families undertake abatement.

10. In Mr. Reilly's testimony, reference was made to the establishment of a policy level task force on lead based pair composed of the major concerned agencies to assist in carrying ou. the recommendations of the CWP. What will be HUD's role in this task force?

For the past two years we have had a working group with EPA and other agencies at the program level. The new policy level task force will provide guidance as necessary. Although the task force has not yet met, HUD intends to continue to carry out the goals and objectives of reducing the LBP hazard in housing and will work cooperatively with EPA as we have on interagency efforts at the program office level.

11. What is the current status of the LBP regulations implementing the Stewart B. McKinney Homeless Assistance Amendments Act of 1988?

The Department is currently in the process of preparing a regulatory amendment to 24 CFR Parts 941, 965, and 968 which will incorporate the provisions of the McKinney Act into the current regulations. We anticipate that this final rule will be effective for the Fiscal Year 1991 CIAP application processing cycle which begins in April 1991. However, until the revised regulations are in effect, the June 6, 1988 regulations as limited by the amendments to the Lead Based Paint Poisoning Prevention Act in Section 1088 of the McKinney Act, apply.

12. Have the Interim Guidelines been distributed?

The revised Interim Guidelines have been made available to the general public through our national publication distribution "HUD USER" (1-800-245-2691 or (301) 251-5154). Revisions to Chapter 8 of the Interim Guidelines (related to Worker Protection) were published in the Federal Register on September 28, 1990.

13. What is the status of training for all PHAs on the Interim Guidelines?

We conducted training on the Interim Guidelines in May of 1990 and will use this curriculum format as the basis for future training. We are working closely with EPA to finalize this training. A source of funding for the training continues to be a problem since there was not an allocation of funds for this purpose.

14. What is the status of the Public Housing Lead-Based Paint Abatement Demonstration? Why has it taken so long to get off the ground?

I am pleased to report that the demonstration is well under way. All testing has been completed. Abatement has already started in Omaha. In Albany and Cambridge, bids for the work will be sought in late February or early March. We expect to complete all abatement by the fall of this year.

There are several reasons for the delay:

1) finding public housing structures which possessed both lead-based paint and enclosed corridors and were scheduled for modernization proved very difficult.

2) PHAs were reluctant to participate because of liability concerns. Congress resolved this issue in the 1990 HUD Appropriations Act by providing up to $1 million in liability indemnification to participating PHAs.

3) the method of funding the demonstration was cumbersome. Congress directed HUD to use Comprehensive Modernization (CIAP) funds to carry out this effort. Unfortunately, the law requires that CIAP may only be provided to PHAs. As a result, each PHA had to execute a separate contract with the HUD demonstration contractor, resulting in major coordination and research management problems.

15. Have insurance requirements related to LBP been addressed?

The Department identified PHA insurance requirements an advised all PHAs by a notice issued on January 15, 1991. Due to the difficulty in securing an agent which could provide adequate insurance, the Department worked with the High Point, NC Housing Authority to develop a full, open and competitive bid solicitation for this coverage. The "Master Insurance Contract", as it is called, was awarded to the American Empire Surplus Lines Insurance Company and it has been in effect since October 1, 1990. PHAs may continue to seek other insurance coverage, through proper bidding procedures, as long as the identified requirements have been met and costs do not exceed those for the master policy.

16. Are risk assessment fees an allowable expense for PHAs?

Under the Comprehensive Assistance Program, risk assessment fees are an allowable expense for projects which have approved modernization funds.

17. How will LBP be treated under the CIAP and upcoming Comprehensive Grant (COMP Grant) programs?

Under the CIAP (which will continue for all PHAs/IHAs during FY 1991), PHAs/IHAs will be allowed to receive priority consideration for funding of Lead based paint testing and abatement activities, either as an emergency, if one exists, or in the category immediately after emergencies - Level 2A. Once the Comprehensive Grant Program is in place in FY 1992, those PHAs/IHAs that qualify for that program will be required to identify their

in the category immediately after emergencies - Level 2A. Once the Comprehensive Grant Program is in place in FY 1992, those PHAs/IHAs that qualify for that program will be required to identify their Lead Based Paint needs in their five year action plans and to prioritize the testing and abatement of their inventory.

18. What is the status of LBP testing and abatement effort to date?

The Department has limited data on PHA expenditures related to LBP activities. This is because the degree of needed LBP activity is not known at the outset of modernization work, hence, resultant funds used for LBP will be reflected as part of the total modernization effort. We are currently implementing changes which will permit us to capture data on expenditures, type of activity (testing v. abatement) and number of units. We also anticipate conducting a survey to assess the level of PHA activity for inclusion in the Congressional report which is due in December of 1991.

19. What monitoring and enforcement efforts are underway?

We are working closely with EPA and OSHA to develop the framework for a certification procedure which would ensure that qualified contractors are conducting abatement activities properly. Additionally, we are developing procedures for use by our field staff to monitor ongoing LBP testing and abatement activities at the PHAs. Simultaneously, we are developing procedures to assess the effectiveness of the Guidelines.

TAB 8

TESTIMONY OF
WILLIAM K. REILLY
ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON TOXIC SUBSTANCES, ENVIRONMENTAL OVERSIGHT, RESEARCH AND DEVELOPMENT
OF THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

FEBRUARY 21, 1991

Mr. Chairman and members of the Subcommittee, I want to thank you for the opportunity to appear before you today to talk about the Agency's comprehensive strategy and activities to reduce risks associated with exposure to lead.

Over the last two decades the federal government has taken a number of key actions to reduce risks associated with lead exposures. It has banned the use of lead in house paint and in the solder and pipes used in public drinking water systems. It has encouraged the phaseout of solder in food cans. EPA's major contribution to these efforts was aggressive action to virtually remove lead from gasoline.

These actions have been very effective in reducing major sources of exposure. As a result, there have been dramatic reductions in average blood lead levels over the past 10 to 20 years from 15 ug/dl to 5 ug/dl. Deaths from lead poisoning, which up to 20 years ago were not uncommon, have been almost eliminated. However, continuing scientific research has demonstrated that harmful effects may occur at blood lead levels previously considered safe. Based on this new information, our threshold level for lead toxicity concern has declined steadily

over the past decade. Experts agree that a large number of children are still at unacceptable levels of risk. While much has been accomplished, clearly much remains to be done.

As you heard in testimony before this Subcommittee in March and June of 1990, lead poses a substantial public health threat -- and our children are the most vulnerable. The experts testified that lead exposures to infants and young children are particularly widespread and serious, and demand attention from federal, state and local governments, health care and environmental professionals, and concerned parents and citizens.

Lead causes a broad range of health and environmental problems. It is toxic to both humans and animals, and produces chronic, as well as acute, effects. As an element, lead is indestructible and, after millennia of use, is ubiquitous in the environment. EPA has long recognized that lead is a significant health and environmental problem -- in fact, it is one of the nation's most toxic multi-media contaminants.

THE AGENCY'S LEAD STRATEGY

In order to reduce lead exposure, the Agency has a number of ongoing efforts that cut across EPA program offices and often involve our regional offices, other federal agencies, and the states. Many of these efforts were described in our testimony before you last year. Today, I would like to outline the Agency's new comprehensive, cross-media strategy for lead, which I directed EPA senior managers to develop last year in consultation with other federal agencies, such as the Centers for

Disease Control (CDC) under the Department of Health and Human Services (HHS) and the Department of Housing and Urban Development (HUD).

I realized that an extraordinary effort to coordinate Agency activity would be necessary in this case, because in addition to its severe toxicity, lead is truly a multi-media contaminant. Accordingly, the Agency plans to address unacceptable lead exposure by coordinating the use of its authorities across programs to further reduce risks from lead. This strategy will ensure that the efforts conducted by EPA in cooperation with other federal agencies, state and local governments, and the private sector will control lead pollution problems in a unified and coherent way.

I have designated the Office of Pesticides and Toxic Substances (OPTS) to coordinate the development and implementation of this Agency-wide strategy. Under their various statutory authorities, the Office of Pesticides and Toxic Substances, the Office of Water, the Office of Solid Waste and Emergency Response, and the Office of Air and Radiation are working together to implement a consolidated plan for significantly reducing lead exposures from different media. In addition to traditional regulatory and enforcement programs, EPA offices are coordinating non-regulatory activities, including integrated risk management, public education, and research efforts.

EPA is also working with other agencies to implement a coordinated federal program to control risks from lead -- efforts

which are particularly important since many of our activities are highly interdependent. EPA and HUD have established a Memorandum of Understanding to govern EPA technical support to HUD in the detection, measurement, and abatement of lead-based paint hazards in housing. EPA is also working closely with CDC, the Consumer Product Safety Commission (CPSC), the Occupational Safety and Health Administration (OSHA), and the National Institute of Standards and Technology (NIST) through an interagency task force, which we co-chair with HUD.

I believe that EPA's lead strategy is a solid, ambitious, and comprehensive plan for lead risk reduction. It includes a commitment to an impressive number and wide variety of activities. It reflects what we know today about lead contamination, and what we still need to learn through research, to increase the effectiveness of our efforts. It will continue to evolve as we learn more about lead hazards and better identify inspection, control, and abatement technologies to address them. Although the details of our strategy may well change over time, I do not expect our overall goal to change.

The Agency has focused its strategy on the goal of **reducing lead exposure to the fullest extent practicable, with particular emphasis on reducing the risk to children.** To achieve this goal, we have set two objectives: **Our first objective is to significantly reduce the incidence of elevated blood lead levels above 10 ug/dl in children, while taking into account the associated costs and benefits. (The 10 ug/dl level is subject to**

revision in light of a forthcoming CDC report.) We estimate that approximately 15 percent of U.S. children have elevated blood levels above 10 ug/dl, and one percent above CDC's current level of concern, 25 ug/dl. EPA supports CDC's efforts to identify, through surveillance programs, individual children with blood lead levels above 25 ug/dl. These children should have their sources of lead abated on a priority basis.

Our second objective is broader: to significantly reduce, through voluntary or regulatory actions, unacceptable lead exposures that are anticipated to pose risks to children, the general population, or the environment. In pursuing this objective, we will base our decisions on an assessment of the benefits to society against the costs associated with such changes in product uses. This second objective focuses attention on ways to cut emissions, expand recycling, and reduce risks from uses of lead. It is based on several characteristics of lead pollution:

- Scientific experts are finding that adverse health effects occur at lower and lower levels of lead;
- Current lead exposures are already above acceptable levels in many locations, and increased use may increase them further; and
- Lead which is newly introduced into the environment may pose potential for additional human exposure and ecosystem damage in the future, since lead is indestructible.

This approach also recognizes that background levels will become more important as we better control existing pathways of exposures.

In pursuing both of these objectives, we will base our decisions on an assessment of the benefits to society against the costs associated with any changes in product uses.

The Agency's strategy is based on our overall understanding of the lead problem. There are three major sources of lead exposure today: (1) lead-based paint; (2) urban soil and dust (depositions from paint, gasoline and industrial sources); and (3) drinking water, primarily from leaching solder, brass fittings, and service lines. These sources are considered major because many people are generally exposed; other sources can result in high exposures in individual cases. The first two sources, lead-based paint and urban soil and dust, are by far the largest contributors to risk. In contrast, lead in drinking water affects nearly everybody, but at relatively low levels. In specific cases, however, it can also be a significant contributor to high exposure levels.

From a strategic point of view, it is important to note that the bulk of the current problem comes from regional exposures to high levels of lead previously deposited when lead was used more extensively. Therefore, reducing elevated blood lead levels in children requires that we turn our efforts first toward management or abatement of in-place lead.

The extent and severity of lead exposures from other sources

is either limited to relatively small populations or, in other cases, is uncertain. Such sources include stationary point sources, sewage sludge disposal (especially incineration), Superfund National Priority List sites, municipal waste combustors, mining sites, occupational exposures, and certain product uses -- for example, imported food cans, hobbyist paint and solder uses, and remaining small uses of leaded gasoline. In any case, contributions from these sources add to the total lead body burden and are therefore of potential concern.

EPA has identified several cross-media activities that will help focus our planning and future risk reduction efforts. These activities will improve the public's understanding of risk and how to minimize that risk, and also help our state, local, and private sector partners improve their capabilities to identify hazards and reduce risk. These action elements are:

Develop methods to identify geographic lead "hot spots". Our asbestos experience tells us that the federal government cannot abate the risks from diffuse sources effectively or efficiently. However, it can play a vital role in developing the necessary tools to identify priority areas requiring attention. An important part of EPA's lead strategy is to develop techniques that will assist other federal agencies, and state and local governments, to locate and map the regions, cities, neighborhoods, and homes with high lead concentrations or children at risk. To accomplish this, EPA will work with other agencies, e.g., with CDC on

its planned screening initiative. EPA's Region 5 has begun a multi-year project to collect and map information on lead exposures from multiple pathways to target high-risk neighborhoods. This project represents a pilot effort to develop new methods, including coordination with state and local authorities, and to promote abatement and in-place management activities.

Develop and transfer abatement technology. In order to ensure that safe, effective, and cost-efficient technical tools are available, we have to develop, evaluate, and disseminate cost-effective methods and tools to abate in-place lead exposure sources. This element includes assessment of methods for in-place management, including cost and long-term efficacy. In this area, EPA's initial efforts have been focused primarily on lead-based paint. We have been coordinating our efforts with HUD and NIST, and I will discuss that cooperation in more detail later in this testimony.

Develop and implement a public information and education program. Informing and educating the public about sources of lead exposure, how to reduce or avoid exposure, and approaches to preventing additional lead from being introduced into the environment are essential to overall risk reduction. EPA is particularly concerned that, whatever activities government implements with regard to in-place lead, we need to properly inform people about how to

reduce exposure and avoid actions that will increase risk.

Implement a Lead Pollution Prevention Program. Given the major sources of lead exposure, the Agency's principal tasks are to abate and control lead that is already in the environment. However, we think it is also prudent to direct attention to reducing lead production and consumption which are likely to add to future exposures and unacceptable risks. One aspect of this activity is the Administrator's Industrial Toxics Project, which aims for dramatic voluntary emissions reductions over the next few years for 17 chemicals, including lead. Other aspects include exploring market-based incentives, promoting recycling, identifying and encouraging cleaner technologies, and regulating some high-exposure uses.

Encourage the availability of environmentally sound recycling. In order to reduce risks to populations and ecosystems from lead, the Agency seeks to encourage environmentally sound recycling. This element is also meant to ensure that the collective impact of pollution control activities does not have a negative effect on safe recycling or net risk.

Minimize lead pollution through traditional control mechanisms. This element involves EPA's traditional "end-of-pipe" regulatory approaches. It focuses on cross-program planning within EPA to ensure that offices are using compatible assumptions and approaches, and that program-

specific activities are coordinated to maximize risk reduction.

Coordinate research programs. A focused, integrated research program is critical to developing sound regulations and a balanced approach to risk reduction. EPA programs are working to set priorities for research and coordinate activities within and outside the Agency. It is particularly necessary to coordinate with other government agencies (federal, state and local) and the private sector on matters relating to testing and abatement.

Integrate enforcement. EPA is initiating a cross-media approach to enforcement activities, including coordinated inspections, analysis of data, and filings for noncompliance cases.

CURRENT ACTIVITIES

Let me now describe our efforts to address the three major sources of lead associated with past practices -- lead-based paint, urban soil, and drinking water. I then will outline other important elements of our control program, medium by medium, and turn to our pollution prevention program for lead.

A. LEAD-BASED PAINT

Lead-based paint is the most significant source of lead exposure to children. It is responsible for a large percentage of elevated blood lead levels in children (i.e., >10 ug/dl), and most very high levels (above 25 ug/dl) in children are due to this source. EPA is working very closely with HUD to provide

technical support for the development of a national lead-based paint program. A technical working group, co-chaired by HUD and EPA, provides a mechanism for coordination and communication among federal agencies involved in lead paint issues. This task force also includes participation from CDC, OSHA, the National Institutes for Occupational Safety and Health (NIOSH), CPSC, NIST, the Agency for Toxic Substances and Disease Registry (ATSDR), and the National Institute for Environmental Health Sciences (NIEHS).

Last December, with the release of HUD's Comprehensive and Workable Plan for the Abatement of Lead-based Paint in Privately Owned Housing, Secretary Kemp invited EPA and other agencies to form a federal task force to help HUD implement the plan. Creation of this policy level task force underscores the continuing close coordination and communication among federal agencies on these issues.

EPA is aware that cognizance of this potential health hazard is not sufficient to protect the public; the technical means and the infrastructure to support a national lead-based paint control and abatement effort must be available. EPA, in its support role to HUD, has a number of initiatives planned to ensure that efforts to reduce exposure to lead-based paint are technically sound and feasible. Lessons learned through our experience with the asbestos program is particularly important to our research planning and our nationwide exposure reduction effort for lead-based paint.

In FY 1991, Congress provided EPA with $4 million for lead-based paint abatement, control, and compliance activities, of which $1.5 million was earmarked specifically for worker training. Working closely with HUD, we have developed an agenda that complements initiatives underway at HUD, including:

1. Investigation of the long-term efficacy of the various abatement techniques (including encapsulation, removal, enclosure, and replacement) as performed by HUD in their Federal Housing Administration (FHA) Demonstration Project. This work will tell us how abatement methods hold up over time in reducing exposures.
2. Investigation of the long-term efficacy of other control and abatement methods, including repair and maintenance as performed in Baltimore, and low-cost abatement techniques as performed in other urban areas. These techniques, in contrast to the full abatement approach used in HUD's demonstrations, were applied in such a way that we can evaluate their individual efficacy, and thereby set priorities to give preference to extreme health hazards.
3. Evaluation of various lead measurement methodologies, including spot test kits and portable and non-portable x-ray fluorescence analyzers for measuring the lead content of paint. We are working closely with NIST in these efforts.
4. Development of a laboratory accreditation implementation plan, including the development of protocols and standard

reference materials for the different analytical methods. NIST is involved in this effort, especially in the development of standard reference materials.

5. Development of testing protocols to evaluate the effectiveness and durability of certain encapsulants.
6. Continued consideration of the applicability of the Resource Conservation and Recovery Act (RCRA) to wastes generated from abatement. A report to Congress is currently undergoing Agency review. We will collect additional data to estimate the cost of treating abatement waste as hazardous, and to evaluate how costs will affect the number of abatements that can be undertaken.

Other activities that are necessary to develop the infrastructure for a nationwide lead-based paint program include:

1. Completion of model training courses that establish state-of-the-art abatement practices and procedures for lead inspectors, abatement supervisors, project designers, and workers. We are working with OSHA to develop training programs for workers.
2. Establishment of training centers to disseminate the training courses. These centers would provide a geographically diverse network to help provide training courses where they are needed.
3. Development of a risk communication strategy to get accurate information to the public. Many aspects of exposure to lead-based paint are currently unknown, and our research

efforts will help answer some of these questions. We realize that getting the correct information to the public is a primary responsibility of the Agency.

4. Development of a community-based primary prevention guide for lead poisoning, that will be developed through an EPA grant to the Alliance to End Childhood Lead Poisoning.

Of the $1.5 million that was ear-marked for worker training, EPA will use a large percentage of the funds to provide worker training grants to labor and contractor groups for the delivery of the new model courses. In addition, the Agency is considering the establishment of a flagship lead center to foster information transfer and stimulate quality training by other institutions. It is also considering seed grants to help develop state lead training programs.

B. URBAN SOIL

Another area of concern is lead-contaminated urban soil. Soil may be contaminated by non-industrial sources of lead, such as paint, gasoline, and household wastes, or by industrial sources, such as battery recycling sites, mining and milling sites, and smelters. Lead-contaminated soil might contribute as much as thirty percent of exposures leading to elevated blood levels in children.

EPA's Office of Emergency and Remedial Response is conducting a $15 million study of soil contaminated by non-industrial sources in Boston, Baltimore, and Cincinnati. With advice from CDC, the Department of Agriculture, and other

Agencies, EPA is conducting this pilot study to evaluate the effect on children's blood lead levels when lead-contaminated soil and dust are removed.

This study, which will be completed by late 1992, has three components: 1) pre-abatement monitoring for blood lead levels and environmental lead in soil, dust, water, and paint; 2) abatement of soil and dust contaminated with lead; and 3) post-abatement monitoring. All three cities have completed pre-abatement monitoring and are in the process of abatement. EPA intends to establish a joint effort with HUD, CDC, and ATSDR to promote and assist a broader effort to identify the locations, extent, and severity of lead-contaminated soil.

C. **DRINKING WATER**

While virtually everyone is exposed to some lead in drinking water, average exposures from drinking water are not very high. We estimate the average contribution to a child's blood level to be approximately 1.0 ug/dl, but a small fraction of the population may be exposed at much higher levels. As with soil and paint contamination, exposures caused by drinking water are due primarily to past practices, especially the use of lead in solder and pipes in household plumbing and water distribution systems. EPA is considering how to reduce risks through a regulatory control program as well as research and education.

In 1988, EPA proposed revisions to the National Primary Drinking Water Regulation for lead under the Safe Drinking Water Act (SDWA). Lead occurs in drinking water primarily due to

corrosion of lead-bearing materials in water supply distribution systems and in household plumbing. The highest exposures occur in areas with corrosive waters, especially in urban areas with lead service lines, and in buildings with lead solder, brass faucets, or drinking water coolers with lead-lined tanks. Concentrations vary widely.

The major provisions of our proposed revisions required water suppliers to monitor lead levels in high-risk homes, under conditions expected to produce the highest concentration of lead (i.e., in first-flush, standing water). The proposal also required water suppliers to lower corrosivity of the water and to conduct public education if lead concentrations were above target levels. EPA plans on promulgating the final rule by the end of April. We estimate that actions by water suppliers to comply with the new rule will result in the average blood lead level among children not exposed to paint or soil contamination hazards dropping from 5.3 to approximately 4.7 ug/dl. (As noted earlier, this estimate refers to <u>average</u> blood lead levels.) In some cases, where drinking water contributes a larger share to total body burden, the drop would be sharper.

EPA's Office of Drinking Water has conducted a pilot public education program in Raleigh, North Carolina, that resulted in simple behavioral changes that can help people avoid elevated lead exposures from drinking water. As part of the final rulemaking, EPA is developing brochures and other communication materials from this pilot study for use by water suppliers. In

addition, EPA will use university-based centers to train water suppliers, engineers, and regulators on practical ways to minimize the corrosiveness of water and reduce lead levels in drinking water.

EPA's Office of Drinking Water developed an extensive program to help schools correct lead contamination problems in accordance with the Lead Contamination Control Act (LCCA) of 1988. This program includes: distributing guidance and a testing protocol to monitor for and remedy excessive lead levels in drinking water; conducting training on proper testing and remediation procedures; publishing brands and models of water coolers that contain lead; and listing certified analytical laboratories. Our guidance and training has been disseminated to thousands of schools across the United States.

To further assist action by schools, EPA recently completed a video on testing and remediation of lead contamination in school drinking water. We also are evaluating the sensitivity of field test kits that can reduce the costs of monitoring lead in water for schools, as well as the general public. EPA's Office of Drinking Water also was instrumental in the consent agreement between CPSC and a leading manufacturer to recall water coolers that failed EPA's recommended action level; that office also continues to oversee state implementation of the 1986 ban on lead plumbing products. The Agency is reviewing the need for additional rulemaking that would effectively eliminate further use of lead-containing solder and fixtures. Finally, a Safe

Drinking Water Hotline has been established to provide information to hundreds of callers each month on the LCCA, the lead ban, and other aspects of lead in drinking water.

D. OTHER ELEMENTS IN THE REGULATORY PROGRAM

Through its various statutory authorities, EPA is pursuing other traditional regulatory mechanisms (aside from those in drinking water), most of which EPA has discussed in previous testimony. Because lead presents risks through a wide range of media, the Agency has clustered together the rules and policies addressing lead risks from these various media. This approach will allow the Agency and the public to review the regulatory programs of each of EPA's program offices as a cohesive whole, and it will help ensure that lead pollution is not simply transferred from one medium to another.

Because EPA has outlined individual program activities in previous testimony, I will cover only a few of the more important elements now.

The Toxic Substances Control Act (TSCA)

EPA's Office of Toxic Substances is investigating the use of TSCA rulemaking to support the lead-in-water program. All of our actions under TSCA will require a balancing of the benefits of reduced lead exposure with the costs associated with reducing or eliminating uses of lead in specific products. One potential rulemaking would minimize the amount of lead that is leached from brass and bronze plumbing fixtures. Studies indicate that these fixtures can be a significant source of lead in drinking water.

The second rulemaking being investigated would limit the sale of lead solder, or use other mechanisms, in order to extend coverage of the Safe Drinking Water Act ban on lead solder used to join pipes.

EPA will assess specific products and uses of lead in order to determine if the health or environmental risk is "unreasonable" and should be regulated under the Toxic Substances Control Act. The Agency also is exploring a rule to require advance notice from anyone intending to manufacture or process lead for a new use, thus giving the Agency an opportunity to review the intended new use and, if appropriate, limit or ban it.

Another initiative under TSCA is to investigate how to encourage the availability of environmentally-sound lead recycling. Recycling lead acid storage batteries is important because of the sheer volume of lead involved -- 80 percent of domestic lead is used in batteries. Recycling is beneficial because it reduces the risks from the amount of lead discarded in the environment and the amount of virgin lead that must be mined. Approximately 80 to 95 percent of spent batteries currently are recycled; however, lead acid batteries still comprised 65 percent of all lead in municipal solid waste in 1988.

EPA offices have agreed on a consolidated plan designed to increase and maintain lead battery recycling in an environmentally sound manner and thereby reduce the introduction of lead into all media. In fact, a cluster of rules across the Agency is based on lead battery recycling. In January 1991, EPA

began a regulatory negotiation process to further investigate this issue and arrive at a recommended solution.

National Ambient Air Quality Standards (NAAQS)

Current EPA activity under the NAAQS falls in two general categories: compliance with existing standards, and revising the standards. The current lead NAAQS was set in 1978 at a quarterly average of 1.5 ug/m^3. The reduction of lead in gasoline, EPA controls on categories of stationary sources, and controls on individual industrial sources through state implementation plans have been the principal mechanisms for widespread attainment. These actions, particularly the lead gas phasedown, have resulted in major reductions in air lead emissions and children's blood lead levels. However, available data indicate that near some lead smelters, refineries, and remelters, the NAAQS are not being attained.

The number of children exposed in these non-attainment areas is small compared to the number of children at risk from the major lead sources discussed earlier. However, for these children, non-attainment of NAAQS can add significantly to their blood levels. Consequently, EPA's Air Office has developed a compliance strategy to bring these areas into attainment, which in some cases requires enforcement action, and in other cases requires revisions to the state implementation plans. EPA estimates that the number of affected children with blood lead levels greater than 10 ug/dl would be reduced about 50 percent, if the current NAAQS were attained in all areas of the country.

The Clean Air Act requires EPA to review the NAAQS every five years and make appropriate revisions. Scientific and technical assessments were completed in January 1990. EPA has been working on its final analysis of the appropriate level to achieve the health level recommended by the Clean Air Science Advisory Committee (CASAC). We have analyzed the effect of a NAAQS revision by reviewing 42 lead point sources and estimating the number of children living near these sources who would have blood lead levels greater than 10 ug/dl at each of the alternative NAAQS levels under consideration. We expect that our analysis and reviews will be completed by October 1991.

E. ENFORCEMENT

While working to tighten lead emissions and exposure controls on the various sources just described, we also want to ensure that facilities are complying with existing limits. The EPA Office of Enforcement is working with our Regional offices and headquarters programs to implement a lead enforcement initiative that will assist in coordinating inspections and analyzing data collected from major sources of lead emissions. One focus will be the use of the Clean Air Act to reduce air emissions of lead from primary and secondary lead smelters, with an emphasis on compliance with State Implementation Plan (SIP) lead emission limits. Our enforcement office also will focus on violations of lead limits in National Pollutant Discharge Elimination System (NPDES) permits for industrial and municipal wastewater discharges and pretreatment requirements for

industrial users of municipal wastewater treatment systems. RCRA actions against primary and secondary lead smelters are another potential avenue of enforcement. We also are exploring the possibility of developing lead enforcement cases in other environmental media. This spring, EPA will be filing enforcement actions against sources of lead emissions that are out of compliance with SIP limits.

F. **POLLUTION PREVENTION**

While the major tasks in reducing risks from lead involve control and abatement of lead that is already deposited in the environment, EPA is concerned that many existing uses of lead, irrespective of current exposures, eventually may give rise to exposures of concern. The use of lead in products presents two types of exposures: 1) exposures that occur from specific lead products during or immediately following production or use; and 2) potential future exposures that might occur after disposal of a lead-bearing product.

Pollution prevention in this context, means finding innovative ways to decrease or eliminate unacceptable exposures that we anticipate to pose risks from lead use, rather than relying solely on "end-of-pipe" controls to limit emissions. It must play an important role in achieving this objective. Because EPA believes that pollution prevention can benefit both the environment and the economy, the Agency's policy will be designed to maximize private sector initiatives by working with industry to achieve reasonable pollution prevention goals. This approach

should encourage more businesses to identify and profit from opportunities for prevention, which in turn will yield significant public dividends in the form of increased environmental protection.

It could also include a variety of TSCA rules, including rules that would restrict or eliminate some lead uses, based on a balancing of the societal benefits of these reductions against their associated costs. Specifically, EPA is developing its strategy to encourage recycling and reduce unnecessary or nonessential uses. At the same time, EPA believes that there is a continuing need for a strong regulatory and enforcement program under existing statutory authorities, because they provide further incentives to prevent pollution.

CONCLUSION

EPA has done a great deal over the past two decades to address lead pollution problems. Much more needs to be done, and we have many efforts underway. In order to move efficiently to higher levels of protection for public health and the environment, EPA has taken a comprehensive assessment of the problem and formulated a strategy that will bring together both our traditional pollution control authorities across the Agency and new concepts of pollution prevention.

This strategy also will result in a coordinated effort to better reduce harmful exposure to lead in our society. It will recognize the need for close coordination and cooperation with

the other federal agencies that play major roles in this important effort to protect public health and the environment.

Thank you again for the opportunity to speak before this subcommittee.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RUSH

July 24, 1991

OFFICE OF CONGRESSIONAL AND LEGISLATIVE AFFAIRS

MEMORANDUM

SUBJECT: Request for comments on HHS draft testimony on H.R. 2840, Lead Contamination Control Act Amendments of 1991, for a hearing to be held July 26th.

FROM: for Thomas C. Roberts Chris Hoff
Director
Legislative Analysis Division

TO: See Addressee List

COMMENTS DUE TODAY: WEDNESDAY, JULY 24, 1991 -- 12:30 P.M.

Attached is a copy of HHS draft testimony on H.R. 2840, Lead Contamination Control Act Amendments of 1991, for a hearing to be held July 26th. OMB has asked for EPA's comments on this testimony.

Please review the testimony and send any comments you may have on it to Steven Rollin of my staff (382-5417, Fax 252-0516, WT-811) **by 12:30 p.m., TODAY, WEDNESDAY, July 24, 1991**.

Thank you for your prompt attention to this matter.

Attachment

cc: Jon Stevens
Robert Coronado

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ADDRESSEE LIST

LaJuana Wilcher, Assistant Administrator
for Water
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DRAFT

Testimony by

Vernon N. Houk, M.D.
Assistant Surgeon General
Director
Center for Environmental Health and Injury Control
Centers for Disease Control
Public Health Service
U. S. Department of Health and Human Services

on

Lead Poisoning Prevention

Before the

Health and Environment Subcommittee
Committee on Energy and Commerce

2123 Rayburn House Office Building

July 26, 1991

U.S. House of Representatives

Good morning, Mr. Chairman. I am Dr. Vernon N. Houk of the Centers for Disease Control. I am pleased to testify before this Subcommittee on behalf of the Department on the subject of lead poisoning prevention. You have asked for our views on the causes and extent of childhood lead poisoning and actions needed to address the problem. In particular, you have requested our views on the relationship of the HHS "Strategic Plan for the Elimination of Childhood Lead Poisoning" and H.R. 2840, the Lead Contamination Control Act Amendments of 1991.

The Department strongly supports efforts to prevent lead poisoning, which remains the most common and societally devastating environmental disease of young children. The tragic consequences of this environmental disease on our children are all the more deplorable when one recognizes that they are preventable.

The risks of lead exposure are not based on theoretical calculations. They are well known from studies of children themselves and are not extrapolated from data on laboratory animals or high-dose occupational exposures. Lead is a poison that affects virtually every system in the body. It has been linked to kidney disease and hypertension in adults and is particularly harmful to the developing brain and nervous system; therefore, lead exposure is especially devastating to children and fetuses because it can cause neurobehavioral problems, learning disabilities, and deficits in IQ.

Studies on the health effects of lead over the past twenty years uncover a consistent trend: the more that is learned about lead's effects on the child and the fetus, the lower the blood lead level at which adverse effects can be documented. Because of the recent scientific information on adverse effects of low level lead exposure in children, the CDC guidelines on childhood lead poisoning prevention are currently being revised. The new guidelines will place an increased emphasis on primary prevention -- eliminating the sources of lead exposure before children are poisoned. It will call for primary prevention activities directed at the community to be initiated when many children in the community have blood lead levels 10 micrograms per deciliter (µg/dl) and greater. We will recommend individual case management--educational, medical, nutritional, and environmental interventions directed at individual children--when an individual child has a blood lead level of 15 µg/dl or greater. We understand that there are many issues surrounding revising the CDC lead guidelines, including working out implementation with public health officials, health care providers, and others. We are working through these issues carefully, including discussing them with our colleagues such as the Association of State and Territorial Health Officials, the National Association of County Health Officials, and the U.S. Conference of Local Health Officers.

Over the last twenty years, we as a society have made substantial progress in reducing lead exposure in the population. The decline in blood lead levels has been in part aided by government and private steps to reduce lead exposure, such as the removal of lead from gasoline, from paint manufactured for interior residential use, and from food. Nevertheless, in 1984, at least 3 to 4 million children in the United States (17 percent of all children) had blood lead levels above 15 μg/dl. The large number of children with blood lead levels in the toxic range shows that existing environmental lead levels in the United States provide no margin of safety for the protection of children.

Childhood lead poisoning is entirely preventable. We believe that a concerted, society-wide effort could eliminate this disease in the U.S. in the next 20 years.

On February 21, 1991, the Secretary of Health and Human Services released a Strategic Plan for the Elimination of Childhood Lead Poisoning, outlining the first 5 years of this effort. Like the new CDC guidelines on preventing childhood lead poisoning, the Strategic Plan emphasizes the need for primary prevention of this disease. It describes actions that can be taken by all levels of government and the private sector. The overall benefits to society of preventing childhood lead poisoning are incontrovertible.

The Strategic Plan includes both a program and a research agenda. The program agenda, which will target efforts first to children with the highest blood lead levels, calls for the following:

- Expanded childhood lead poisoning prevention programs and activities.
- Effective and safe abatement of lead-based paint in housing.
- Reduction in sources of lead exposure in addition to lead-based paint.
- National surveillance for elevated blood lead levels.

The first element of the Strategic Plan is increased childhood lead poisoning prevention activities. This includes screening children for lead poisoning, ensuring appropriate follow-up for poisoned children, and education and outreach about childhood lead poisoning and its prevention. These secondary prevention activities will continue to be essential while, over time, we work towards achieving primary prevention of this disease. The CDC grant program focuses on these activities. The Department strongly supports the reauthorization of the lead poisoning prevention program administered by the Centers for Disease Control, as included in H.R. 2840.

As I have testified many times, effective and safe lead-based paint abatement is essential for the elimination of childhood lead poisoning, and this is the second critical element of the

Strategic Plan. Lead-based paint is the most concentrated source of lead to children and, historically, is the source most closely linked to overt lead poisoning in children. For children with the highest blood lead levels, that is, children with overt lead poisoning, lead-based paint is of particular importance because of both the contribution of lead paint ingestion and the ingestion of soil and dust contaminated by leaded paint.

You have asked me to discuss the relationship between the Strategic Plan and H.R. 2840. H.R. 2840 addresses effective and safe lead-based paint abatement by calling for training and licensing of lead inspectors and deleaders and certification of laboratories measuring the lead content of environmental samples. These are topics identified in the Strategic Plan as essential to ensure the safe, appropriate, and effective abatement of lead-based paint in housing. H.R. 2840 also calls for regulations to require testing for lead-based paint, and disclosure of these results at certain transactional events involving residential property. I agree that no child should be poisoned by their residence because the family does not know lead-based paint hazards exist in their new home. Also, as noted in H.R. 2840, no home that has been shown to be negative for lead-based paint should be required to be retested every time the home is rented or sold. I also wish to point out that the definition of a "lead hazard" in H.R. 2840 does not include intact paint that children can mouth, like that on door and window casing sills. Such paint

can also be responsible for high-dose lead poisoning and should be included in the definition of a "lead hazard."

Where these activities contained in section 4 should be placed is for others to decide, but these activities are essential if we are to deal effectively with the lead poisoning problem. I believe that these activities will be most effective if they are done at the state level, with federal guidance. I believe it is appropriate that H.R. 2840 has provisions for states to carry out these activities.

The third critical element of the Strategic Plan focuses on other widespread sources and pathways of lead exposure to children. In the past, we tended to think about each source of lead individually. We failed to consider that once the lead gets into the child, it doesn't matter what the source was; all sources of lead add up. Lead in water, food, soil, and air, in particular, may affect large numbers of children and contribute to overall levels of lead in the population. Continued efforts to reduce these sources and pathways of lead exposure will result in lower average blood lead levels in the United States and will thereby further diminish the likelihood of lead poisoning developing even in children exposed to a high-dose source.

It is also important to recognize that high-dose exposure may result from sources other than lead-based paint in specific

situations. We recently investigated the source of exposure for a family in which 3 of the 4 children became lead poisoned, with one child developing a blood lead level close to 100 µg/dL. After a comprehensive evaluation, we discovered that the source of lead was pottery that had been used to mix punch for a party. We subsequently measured blood lead levels in other people who attended the party. Almost two months after the party occurred we could still show higher blood lead levels in people who had drunk the punch.

The fourth element of the Strategic Plan is the call for national surveillance for blood lead levels. Such surveillance, in conjunction with data from screening programs, is essential for defining those areas in greatest need of intensive interventions and for evaluating our progress in eliminating this disease.

We have a landmark opportunity to make a major impact on the lives of the children of this country. This is one of the few times where we have enough knowledge and ability to eliminate one of the major diseases of children. The Federal Government or any single Federal agency cannot solve this problem alone. No state government or single agency within a state can solve this problem alone. The private sector cannot solve this problem alone. Individual citizens cannot solve this problem alone. However, through continued coordination at the Federal level, and work with state and local governments, the private sector, and

TAB 10

WHAT BLACK CONSERVATIVES WANT
Clarence Thomas and the Court

Newsweek

...15, 1991 $2.50

LEAD
And Your Kids

...sturbing New Evidence
About the Threat
to Their Health

How to Protect Them

LEAD AND YOUR KIDS

Public-health officials say lead is the No. 1 environmental threat to children—whether they live in public housing or neat suburban homes

BY STEVEN WALDMAN

When Helene and Bruce Tackling found their two-story house in New London, Conn., in December 1989, they called it "our Christmas miracle." It seemed perfect. On the very same street where Bruce grew up, it had two parks nearby, a big backyard and enough space so their 2-year-old, Jessica, and the baby on the way could have their own bedrooms. It needed some renovation, but Bruce was handy with a Spackle knife and the family moved in on March 1, 1990.

Bruce immediately went to work, scraping the old paint off the pantry and sanding the bathroom walls down to the original wood. The place was looking sharp. But within months of moving in, the children had become increasingly demanding and irritable. Nicholas, the new baby, wouldn't stop crying, his voice sometimes locking into a continual eerie scream, "like he wasn't even awake," says Helene. Doctors said it was colic, and nurses told her to feed him bananas and rice. Jessica kept complaining of stomachaches, but checkups found nothing wrong. One day Helene was cleaning out a filing cabinet when she found a pamphlet on lead poisoning, which she vaguely recalled as a disease kids used to get from chewing pencils. But the symptoms listed matched her children's behavior, so she called her pediatrician's office. The nurse said not to worry. "She's not eating paint chips, is she?" the nurse asked. Helene had never seen the kids eating paint chips, and she

Nicholas McFadden of Baltimore undergoes painful chelation therapy to cleanse some lead from his body. His serious poisoning kept him in the hospital for six weeks.

Helene and Bruce Tackling in the hallway of the New London, Conn., house where their children Jessica (left) and Nicholas got lead poisoning. By stripping the doorframe behind them, they had increased the hazard.

PHOTOS BY JOHN FICARA—NEWSWEEK

egularly vacuumed any peeling paint.

But this April, the Tacklings learned hat much of what they and most Ameri-ans believed about lead poisoning was rong. Tests showed both Jessica and Nicholas had lead poisoning. They proba-ly got it not from eating paint chips but rom fine paint dust—stirred up in part by he renovations Bruce did to make the ouse just like new and the vacuuming Helene did to make it pristine. Helene con-oled herself by thinking they had caught it arly enough so doctors could cure her kids. Doctors had to repeatedly tell the disbeliev-ng mother the disturbing news: damage rom regular exposure to lead is usually rreversible. It's too early to tell how the ead has affected them, but odds are, Jessi-a and Nicholas will not be quite as intelli-ent as they were born to be. "I'm living it very single day, every single day," says Helen[illegible] just think of this nightmare. I loo[illegible] children and wonder what I've ab[illegible] from them."

A Silent Hazard

Seventy-four percent of all private housing built before 1980 contains some lead paint.

■

Three million tons of old lead line the walls and fixtures of 57 million American homes.

■

One of nine children under age 6 has enough lead in his blood to place him at risk.

■

Children with high lead levels are six times more likely to have reading disabilities.

SOURCES: DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, CDC ADVISORY COMMITTEE, JOEL SCHWARTZ, SENIOR SCIENTIST, EPA, HERBERT NEEDLEMAN STUDY

Lead poisoning? Most middle-class parents would have the same reaction as the Tacklings: denial and disbelief. Isn't lead poisoning something that happens only in the ghetto, where poor children eat flakes of paint? On the surface, the incredulity makes sense. The federal government did, after all, ban the use of lead-based paint in 1978, and phase out most lead in gasoline in the 1980s. Kids today on average ingest far less lead than their parents did—and *they* don't seem to have suffered an epidemic of lead poisoning. There shouldn't be a problem at all, let alone one affecting people in decent houses. Yet the fact is that lead poisoning is now being called the nation's No. 1 environmental threat to children—not by Greenpeace or Ralph Nader, but by top officials of the Bush administration. To be sure, some liberals of late have excitedly spotted lead as a politically attractive "children's issue." But the new assessment of lead's dangers comes from scientists and public-health officials who

have formed two conclusions: first, while government stopped new lead from being poured into the environment, it never actually dealt with the 3 million tons of old lead that line the walls and fixtures of 57 million private American homes. More important, in the past 10 years research has clearly demonstrated that even small doses of lead can slow development and make children less intelligent.

Risky zone: According to Joel Schwartz, a senior scientist at the Environmental Protection Agency, one out of nine children under age 6 has enough lead in his blood to place him in what scientists now consider the risky zone. U.S. Public Health Service estimates place the figure as high as one in six. In the inner city, approximately one out of two children falls in that range. The U.S. Centers for Disease Control will issue new guidelines in the next few months that contain a dramatic message for doctors and public-health officials: lead is a much more serious hazard than we thought, and families and the government should take action well before children show obvious symptoms. "Lead poisoning is entirely preventable, yet it is the most common and societally devastating environmental disease of young children," says Dr. Louis Sullivan, secretary of Health and Human Services.

In a nation that bans food colorings because they may harm one person in a million, the concept that one out of nine children is adversely affected by lead seems hard to believe. Is it possible that so many of our children are brain damaged? Obviously not. But several hundred thousand of them have absorbed enough lead to significantly slow their minds and alter their behavior. Roughly 2 million others have slightly elevated blood-lead levels without obvious symptoms or intellectual damage. The lead industry argues that scientists still have not proven that small doses of lead really damage kids. But they agree with public-health officials that parents can greatly reduce the risk of any harm by taking a few simple steps (page 46). Chief among them is changing the way they think about the paint on their walls.

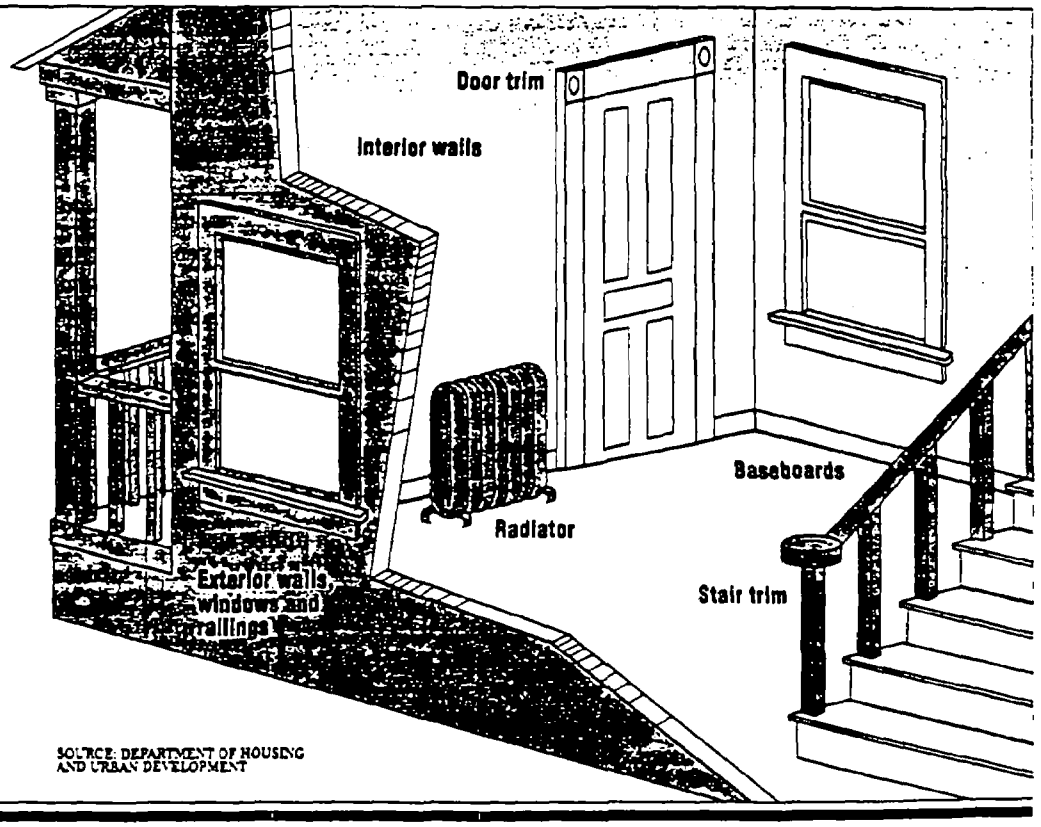
The lead problem persists because lead paint persists. Paint manufacturers removed much of the lead from paint in the 1950s. But the failure of the government to address lead hazards in housing—and the unwillingness of interest groups to push them—has meant that most of the paint remains in the same houses that got coats 40 or more years ago. Seventy-five percent of all private housing built before 1980 has some lead paint, according to a 1990 report by the U.S. Department of Housing and Urban Development. Middle- and upper-income families are as likely to have lead paint in their homes as the poor, the report found, and homeowners were as likely to have it as renters. The mere presence of lead-based paint doesn't harm children, but HUD reported that 20 million of those leaded houses have too much lead dust or chippings—about 20 percent of the entire housing stock—and 3.8 million of those homes had children living in them.

Five of Wanda Johnson's eight children have suffered lead poisoning in Baltimore. Approximately half of inner-city children have high levels of lead in their blood.

Two of those children were 4-year-old Nicholas McFadden and his older sister Chrystal Files of Baltimore. Chrystal almost certainly got lead poisoning from living in a run-down apartment when she was 4 years old. Their mother, Stephanie Poole, found another apartment that, she says, looked safe: smooth walls, intact baseboards. But she didn't know to look for

Where Lead Is Found

Different surfaces in a home pose varying lead-paint risks. Friction from opening and closing windows can turn hazardous exterior paint into lead dust, which can be ingested by people inside. If intact, large interior surfaces, like walls and ceilings, are far less likely to pose a danger.



JOHN FICARA—NEWSWEEK

paint dust or tiny loose chips, which were plentiful on the windowsill in Nicholas's playroom. Within a year of moving in, Nicholas had severe lead poisoning.

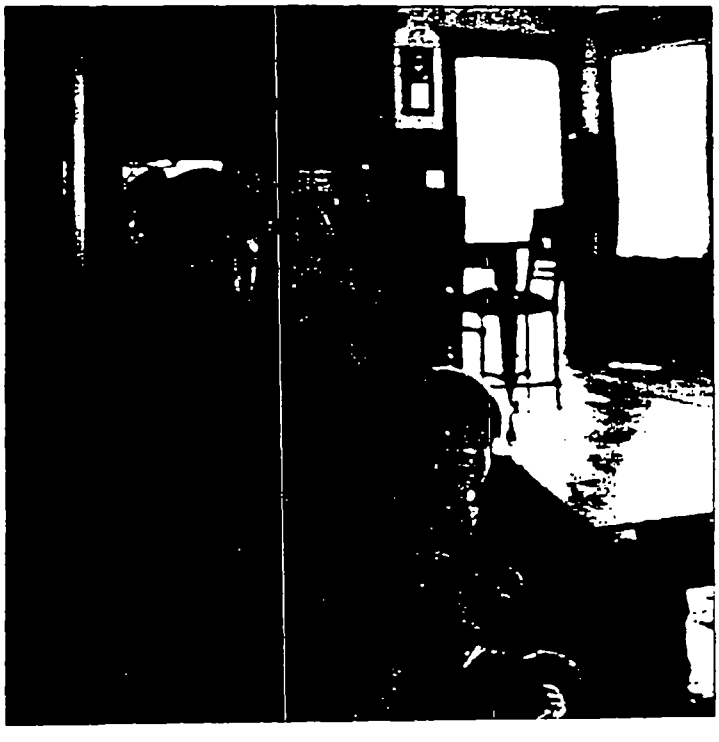
Poole now has to observe the consequences. Last month she stood anxiously in the hallway at the Kennedy Institute in ... more, afraid to look in the room ... Nicholas was undergoing a painful ... nt called chelation, which uses ... ions to cleanse the blood of some lead. When Chrystal entered first grade last fall, Stephanie watched as the other kids whizzed through drills on vowels and consonants, while Chrystal gazed blankly out the window. She is far behind the other kids in spelling and math. "I'm hoping she's just slow," Stephanie says, tears welling, "and there's not something wrong with her."

Only in the past decade have researchers focused on how lead damages development, even when kids don't show obvious medical symptoms. In the 1970s, the CDC defined lead poisoning as occurring when a child had 30 micrograms of lead per deciliter of blood (30 μg/dl), the level at which problems like anemia, stomach ailments and noticeable learning troubles appear. But a 1979 study by Dr. Herbert Needleman, then a physician at Children's Hospital in Boston, found that asymptomatic working-class children in Chelsea and Somerville, Mass., who had higher lead residues in their teeth performed worse on IQ and development tests than those with less lead. A subsequent follow-up study showed that children with lead levels equal to 25 to 35 μg/dl were six times more likely to have reading disabilities and seven times more likely to drop out of high school.

The Needleman study was one of the first that tried to factor out other possible explanations such as family stimulation and parental IQ, and it triggered a wave of research on low-level effects of lead. A 1987 study of 249 mostly middle- and upper-middle-income infants in the Boston area reported that those exposed to 10 to 25 μg/dl of lead in the womb lost four to six points on developmental tests measuring memory, learning and tasks like putting pegs into a board or naming parts of a doll. A 1987 study of 501 children in Edinburgh, Scotland, found that those with average blood levels of 11 μg/dl suffered similar intelligence losses, while another Scottish study reported that children with slightly elevated blood-lead levels were more likely to be considered hyperactive or aggressively antisocial by their teachers. Other studies have linked low-level exposure to hearing loss, slower reaction time, reduced attentiveness, delays in the age at which children first walk and problems with balance. In part because of these studies, the CDC in 1985 lowered the definition of lead poisoning to 25 μg/dl, where it remains. The CDC is planning to draw new warning lines below that number, advocating family or community action between 10 to 25 μg/dl. It has not yet decided what level should be labeled lead "poisoning." "The more we learn, the more toxic we find it to be," says James Mason, head of the U.S. Public Health Service.

No unanimity: While there is a strong consensus that lower levels of lead cause damage, there is no unanimity. Studies financed by the lead industry have found little damage at low levels, and one independently funded study found that early intelligence losses associated with lead may fade in later years. "You see tremendous inconsistencies among the results," says Rosalind Volpe, a consultant with the International Lead Zinc Research Organization, an industry-sponsored group. The key health statistic, according to Jeffrey Miller, spokesman for the Lead Industries Association, is that average blood levels have dropped dramatically in recent decades, from 17 μg/dl in 1978 down to about 6 μg/dl now. "One might get the sense it's a billowing epidemic, when in fact the opposite is true," he says.

It's a fair point, which makes one won-



DOUGLAS KIRKLAND—SYGMA

Mark Rosenbaum and Barbara Fascher of Los Angeles flew in a contractor from Massachusetts to repair their house after discovering that Samara had slightly too much lead in her blood.

der: if lead is so bad, why aren't half of today's adults suffering the effects of childhood lead poisoning? The answer is that many probably are, but couldn't possibly know it. "I guess we all might have been a little smarter than we turned out," says David Bellinger, a lead researcher at Harvard University. "It's hard to tell if someone goes from 140 IQ to 135."

The changing notion about how kids get poisoned is altering beliefs about who gets poisoned: if children can get lead poisoning without eating peeling paint, they can get it without living in dilapidated housing. The Children's Hospital in Boston reports that from 1987 to 1990, 40 percent of its infant-poisoning cases resulted from victims ingesting dust while the family, often well-to-do, renovated an old house. The daughter of a financial consultant and a management consultant became sick from renovations on an old farmhouse in Concord, Mass. Paul and Gerry Francoeur's 3-year-old daughter, Heather, seems to have gotten lead poisoning from playing in her sandbox, which apparently became contaminated with lead dust after her father sanded paint off the house's exterior.

Marc and Cathryn Perrone did extensive research on the safest way to remove lead paint from their home in Milwaukee. But the information they got was wrong, and their baby Miranda (in Cathryn's arms) was poisoned.

BUCK MILLER

Is Your Home Safe? Here's How to Check

Testing your child: Children should be tested for lead poisoning unless they live in areas where widespread screening has revealed no problem, according to the Centers for Disease Control's advisory committee on lead. It recommends screening at 12 months and then again at 24 months. High-risk kids (from older run-down homes) should be tested earlier and more often. Make sure doctors use the "blood-lead test" instead of the FEP (Free Erythrocyte Protoporphyrin) test, which is extremely inaccurate. If results show elevated levels, get a confirmation test because even the blood-lead tests are inexact. The blood-lead test should cost about $30.

What level is dangerous? Many doctors mistakenly believe that a blood-lead level under 25 micrograms per deciliter (written "25 μg/dl") is safe. But the CDC is about to establish 10 μg/dl as the level above which some sort of action should be taken. A child with a blood-lead level of 10-15 μg/dl is not in imminent health danger but should be tested again three months later. If the lead level has not declined, the family should take steps to pinpoint and remove hazards by cleaning thoroughly and testing paint, drinking water and other potential sources (below). Make sure your child gets enough iron and calcium. If the level is more than 15 μg/dl check with a doctor for a nutritional and medical assessment.

Who is most at risk? If your home was built before 1950, you probably have some lead paint, but others may have it, too. The Northeast, Midwest and Western states have more lead than the South.

Testing your paint: If your local health department won't test, two home kits have been rated by Consumers Union to be effective tests for highly leaded painted surfaces. LeadCheck Swabs are sold by HybriVet Systems Inc. (800-262-LEAD). Frandon Lead Alert Kit is sold by Frandon Enterprises, Inc. (800-359-9000).

Lead paint but no signs of trouble: If your child's blood-lead level is below 10 μg/dl and the house has no cracking, peeling paint, don't panic. Odds are, renovations to remove the paint will just increase the dust level. Scrutinize windowsills, baseboards and doorframes, where friction grinds up the paint layers and creates lead dust. Watch for dust, not just peeling. To remove the dust, damp-mop or wipe with a high-phosphate detergent. Ask for trisodium phosphate washes (TSP) at paint or hardware stores. (It may not be available in some states.) Consider joining with other tenants or homeowners to buy a HEPAvac (High Efficiency Particulate Air Filtered Vacuum), which costs about $1,000, for an occasional superscrubbing, or check with the health department to see if one can be rented. Other experts recommend scrubbing with a TSP-drenched sponge. Or use a wet-and-dry or shop vacuum with this procedure: sponge down all smooth surfaces with TSP soap twice. Wet-mop the same surfaces using a solution of diluted high-phosphate soap. Make sure the surfaces are plenty wet and then clean with the shop vacuum.

Removing lead from a home: Do not attempt a full-scale abatement yourself. If tests show you have a major hazard, hire

Squeaky clean: A workmar

The Francoeurs were lucky because they live in Massachusetts, the only state that requires mandatory testing of children for lead poisoning. Several states and cities have aggressive programs to screen inner-city children for lead poisoning. But all those programs together in 1985-86 tested just 800,000 kids, about 4 percent of children under age 6. And pediatricians of middle-class kids test even less frequently than those of the poor.

It takes strikingly little lead to cause lead poisoning. A child can become severely lead poisoned (60-80 μg/dl) by eating one milligram of lead-paint dust—equivalent to about three granules of sugar—each day during childhood. To achieve blood-lead levels of 35 μg/dl, a child would have to eat just the equivalent of one granule of sugar a day. That's why a child can become ill merely by regularly touching a windowsill and then sucking his thumb. Why is lead so toxic? The body, in effect, mistakes it for calcium. The lead attaches to and disrupts enzymes essential to functioning of the brain and other cells. Because lead is an element, it never decomposes into another, more easily tolerated, substance. While it can be removed from the bloodstream through chelation, most of the lead that is absorbed into a child's brain sits there, literally, forever.

Children are most likely to get lead poisoning between the ages of 6 months and 6 years, when lead dust from carpeting, toys or the floor is more likely to find its way into their mouths. (An adult can tolerate larger doses.) If exposed, developing fetuses are the most vulnerable of all. Sometimes mothers subject their children to lead by eating, drinking or breathing lead during pregnancy. Researchers are now examining theories that women store lead in their bones and years later may withdraw it, along with the calcium, during pregnancy and pass it on to their fetuses. Sandra Roseberry of Portsmouth, N.H., probably passed lead on to her daughter Julianne by stripping wallpaper during pregnancy. Julianne's blood-lead level went as high as 100 μg/dl.

Although a less serious culprit than paint, drinking water can raise blood levels, too. When Vice President Dan Quayle recently had his Washington mansion tested, he was disturbed by the levels of lead found in the water. The Environmental Protection Agency estimates that lead in water causes 10 to 20 percent of overall childhood lead exposure.

New prism: The new science about lead's effect on the brain may force policymakers to re-examine some social issues through a new prism. For example, if lead can cause aggressive behavior, learning disabilities and hyperactivity, might it not also be a contributing factor in poor educational performance among low-income blacks, who suffer the most lead poisoning? "The education community has not really understood the dimensions of this because we don't see kids falling over and dying of lead poisoning in the classroom," says Bailus Walker, dean of the public-health school at the University of Oklahoma and former commissioner of public health in Massachusetts. "But there's a very large number of kids who find it difficult to do analytical work or [even] line up in the cafeteria because their brains are laden with lead."

It's not just the educational community that has ignored the problems of lead. Civil-rights advocates, environmental lobbyists, even children's welfare advocates have un-

a qualified contractor. An improperly done abatement will make things worse. The safest and [illegible] is encapsulating, covering or removing painted surfaces entirely. Scraping or using a heat gun can be trouble if done improperly. Power sanding and open-flame burning are almost always dangerous. Complete removal can cost thousands of dollars, but you might significantly reduce the hazard by replacing doors, window frames or contaminated carpeting, or by putting up wallpaper or paneling. Consult the health department about what to do with the leaded waste.

Hiring a contractor: If your local health department doesn't have a list of recommended contractors, try the regional office of the U.S. Department of Housing and Urban Development. On the East Coast, call the Massachusetts Department of Labor and Industry (617-727-1932), or Maryland's Department of Environment (301-631-3859). Some contractors may be listed in the phone book under lead, others under asbestos. Grill them to ensure they're qualified: Have they been through a special lead-paint-abatement training program? What kind of cleanup do they do? What kind of precautions do they take for workers?

Doing renovations: If you have lead-based paint, the safest approach is to send kids away from home until work is done and the house has been thoroughly cleaned. If that's impossible, seal off the rooms being renovated and clean well.

Exterior paint: Watch out during warm weather when children play on the porch or in a front yard. People can also track lead dust into the house.

Buying a house: Most inspections do not test for lead paint. Try to test and abate before you move in.

Testing drinking water: Ask your local water supplier for the names of EPA-certified laboratories that will test your water for $15 to $35. EPA considers water safe if it has less than 15 parts per billion of lead, although some doctors and advocacy groups call for less than 10. You should test if you have water from a drinking well, pipes with lead solder or water known to be very corrosive. EPA has a safe-drinking-water hot line that may help answer questions (800-426-4791). If water has too much lead, reduce risk by running the faucet for a minute. When cooking or washing vegetables use cold water, which is less likely to pick up lead. Be wary of water-filter scam artists; most filters don't work on lead.

Ceramic dishware and lead crystal: Some imported ceramic dishes have lead in them. Test with a home kit. Don't store liquids in lead crystal; the lead may leach out. It's fine to use it for serving.

STEVEN WALDMAN *with* DORIS IAROVICI

s a Baltimore public-housing unit using a HEPAvac

JOHN FICARA—NEWSWEEK

til recently done almost nothing about lead. The inaction stems mostly from two adictory beliefs: that the problem had solved and that it is too big to solve oving old paint would be a gargantuan

Congress gave most of the responsibility for solving the lead-paint problem to the HUD in 1971. But HUD has done little about most private housing, and in government-assisted housing it has regulated only peeling paint, whether it has lead in it or not. Many localities still believe they only have to fix peeling paint up to five feet high on walls, ignoring both the laws of Congress and gravity. When trying to promote research about lead, HUD has had mixed results too. In 1975, for example, it paid the Johns-Manville Corp. to find a way of sealing off lead paint. Incredibly, Manville suggested covering it with asbestos.

The failure for years of government and liberal advocates to focus on lead has been so stark that it begs an uncomfortable question: have attitudes about race and poverty affected people's willingness to take on this problem? Consider Wanda Johnson, a welfare mother from Baltimore with eight children—five of whom have suffered from lead poisoning. Psychological tests have shown her poisoned kids far behind their age group, yet their future teachers or bosses may not have expected much more a· v. "They're going to walk around 0-pound weight," says James Ruf- niversity of Maryland School of Law who tried to force the Johnsons' ·d into making repairs. "But most people are just going to assume they're naturally slower and lazier."

New research and an awareness that lead hazards touch people like the Tacklings of New London, Conn., as well as the Johnsons have helped prod the government into stronger action in the past two years. After years of delay, EPA in May issued rules attempting to reduce lead in drinking water. HUD has, for the first time, asked for funds to de-lead private housing, and is writing rules on how to improve a house through small, practical steps without ripping it entirely apart. One bill being drafted in Congress by Rep. Henry Waxman would require house sellers to notify prospective buyers of lead paint. The most important governmental action will be CDC's new guidelines for doctors and public-health professionals. But CDC faces a dilemma: how to make people more aware of lead's hazards without creating a stampede of hysterical parents. Health departments and medical labs could not now handle a surge in demand for blood tests. And outside Massachusetts or Maryland, few contractors are actually qualified to test and remove lead.

Over the next few years, parents' concern will likely rise faster than the understanding of what they should or shouldn't do. When Baltimore began publicizing lead hazards in the early 1980s, about half the poisoning cases treated by the Kennedy Institute resulted from houses that had leaded paint improperly removed. Marc and Cathryn Perrone of Milwaukee actually consulted an engineer to find out how to get rid of old lead paint safely. They decided on a heat gun. After they'd stripped most of the paint, they learned that heat guns were very dangerous. When they tested their kids, their daughter Miranda, then 21 months old, had a 33 μg/dl reading.

$70,000 job: Mark Rosenbaum, a lawyer in Los Angeles, had already renovated his 85-year-old house when he decided to have his 16-month-old daughter, Samara, tested. The tests revealed a blood level first of 8 μg/dl and then of 12 μg/dl. The family moved out right away. Tests of the house showed lead dust on the floors and carpets, but the Rosenbaums couldn't find a contractor in all Los Angeles who knew how to remove the lead-based paint. "You go to the Yellow Pages for lead abatement and you might as well be looking for kryptor abatement," he says. They flew in a licensed professional from Massachusetts. The cost: $70,000.

The Rosenbaums' experience was harrowing, but it should be kept in perspective. Research has shown that if the exposure to low doses of lead is halted early, parents can make up for most potential learning deficits through good diet and extra stimulation. It's unlikely that paint dust will really alter Samara's life. And Rosenbaum is lucky in another way. As general counsel of the American Civil Liberties Union in California, he was able to vent his anger by helping sue California for not testing enough for lead poisoning. But most families won't take such dramatic steps, or, for that matter, test their own children. The problem for them isn't lack of money or legal expertise. They simply don't realize—or can't believe—that the dust on their windowsill might be quietly stealing part of their child's potential.

With DEBRA ROSENBERG *in Boston and* PATRICK ROGERS *in Milwaukee*

Lead and Money

There are 3.8 million homes with peeling lead paint or lead dust inhabited by children under the age of 7.

■

52% of these families have an annual income less than $30,000; 48% have incomes more than $30,000.

■

Two thirds of the families with incomes less than $30,000 per year rent their homes.

■

More than 75% of the families with incomes over $30,000 per year own their homes.

SOURCE: DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Doctors believe Julianne Roseberry of Portsmouth, N.H., probably got lead poisoning because her mother worked with lead-based paint during pregnancy.

IRA WYMAN FOR NEWSWEEK

OFFICE OF ENFORCEMENT LEAD INITIATIVE QUESTIONS AND ANSWERS

QUESTION #1

Q. HOW WERE THE COMPANIES WHO WERE NAMED IN THE OFFICE OF ENFORCEMENT'S LEAD INITIATIVE SELECTED?

A. The Twenty three civil judicial cases were selected by EPA and the Department of Justice through their existing screening and review procedures, and through a special process et up by EPA and DOJ to determine which cases might be appropriate for judicial action. EPA elected the 12 administrative cases from the existing administrative caseload.

QUESTION #2

Q. HOW DID YOU DECIDE WHICH CASES TO BRING ADMINISTRATIVELY AND WHICH TO BRING JUDICIALLY?

A. Generally, candidates for judicial action include cases against particularly egregious or repeat violators or violators of administrative agreements, cases that seek particularly large penalties, cases where court-supervised injunctive relief is needed, cases that may establish useful legal precedents interpreting key aspects of the regulations or statute, and cases with a multi-medi enforcement approach. This enforcement initiative includes case fitting these criteria.

The decision to bring a case administratively or judicially rests initially in EPA's regional offices. The Regional Offices have established screening process to help make such determination. Once EPA refers cases to the Department of Justice, the assistant attorney general must decide whether to approve the case for filing in court.

QUESTION #3

Q. WHAT IS THE DIFFERENCE BETWEEN ADMINISTRATIVE ENFORCEMENT CASES AND JUDICIAL ENFORCEMENT CASES?

A. Administrative enforcement cases are issued directly by EPA (or by states using their own enforcement authorities) to the facility, without the involvement of a state or federal court. Respondents in administrative enforcement case have several levels of administrative review available should they wish to contest the administrative complaint issued against them. In most instances, respondents can ask for an "informal review of their case, usually with the issuing official in the Regional Office. Should they request further review, a formal hearing, open to the public, before

an administrative law judge (ALJ) is available. Finally, a direct appeal to the EPA Administrator's office is also available.

EPA's judicial enforcement actions are lawsuits in federal court, involving all of the trial and appellate procedures normally associated with civil litigation in federal court. In these instances, federal judges preside over the trial or appeal of the case. Although both administrative and judicial cases generally involve the assessment and collection of penalties, civil judicial penalties are usually higher than penalties obtained in administrative cases. In addition, violation of a judicial decree could constitute contempt of court, subjecting the violator to civil or criminal sanctions. This serves as a significant deterrent to violations of a court order.

QUESTION #4

Q. WHY FILE ADMINISTRATIVE AND JUDICIAL CASES TOGETHER IN THIS ENFORCEMENT INITIATIVE?

A. Both administrative and judicial cases were filed in order to send a very strong and unmistakable message that the government is aggressively committed to enforcing existing regulations involving lead.

The inclusion of both administrative and judicial cases reflects the government's willingness to use a variety of enforcement mechanisms to ensure compliance with existing regulations. A strong enforcement program includes a balanced mix of judicial and administrative cases. This combination of administrative and judicial enforcement also maximizes the deterrent impact on the regulated community.

QUESTION #5

Q. WHY IS LEAD-ACID BATTERY RECYCLING DESIRABLE?

A. The sheer volume of lead consumed in lead-acid batteries makes recycling important. In 1989, 80% of total domestic lead consumption (approximately 800,000 metric tons) went into lead-acid batteries. Given lead's toxicity and its indestructible nature once it enters the environment, it is important to recycle this significant quantity of lead consumed each year rather than introducing that lead into the environment.

QUESTION #6

Q. **IF THE LEAD-ACID BATTERY RECYCLING RATE IS OVER 90%, IS IT NECESSARY FOR THE FEDERAL GOVERNMENT TO DEVELOP REGULATIONS TO MANDATE BATTERY RECYCLING?**

A. The battery recycling rate is high today, but has historically fluctuated based on the price of lead and the impact of federal regulations on secondary smelting. In the early 1980's, lead-acid battery recycling reached a low of 61% when the price of lead dropped significantly and a number of secondary smelters chose to close rather than meet federal regulations. This meant that about 25 million batteries with over 200,000 metric tons of lead were not recovered in one year alone. Even at a 90% recycling rate today, some 80,000 metric tons of lead may be entering the environment each year. Accordingly, the Agency is considering regulatory options under TSCA §6 to maximize lead-acid battery recycling.

QUESTION #7

Q. **ARE SMELTERS IN COMPLIANCE WITH FEDERAL REGULATIONS GOVERNING AIR QUALITY?**

A. As of October 1990, 22 of 29 smelters in the United States were found to be in compliance with the National Ambient Air Quality Standards (NAAQS). EPA is however considering a revision of the lead NAAQS to further reduce potential environmental risks from lead smelting.

QUESTION #8

Q. **HOW IS EPA PLANNING TO PROMOTE LEAD-ACID BATTERY RECYCLING?**

A. EPA's Office of Solid Waste (OSW) is currently conducting an evaluation of the effectiveness of State lead-acid battery recycling programs. This study will provide useful information on the mandatory take-back model adopted by States. In addition, the Agency is considering an number of regulatory options under TSCA Section 6 foster the recycling of lead-acid batteries.

QUESTION #9

Q. **How does the Agency's Lead Strategy affect the recycling of lead-acid batteries?**

A. As an outgrowth of the Lead Strategy, a number of regulations have been identified which could affect the recycling of lead-acid batteries. These regulations are designed to minimize release of lead into the environment,

and several are likely to require the smelting industry to employ costly control mechanisms to meet this goal. However, the viability of the secondary smelting industry is essential to the continued availability of domestic recycling capability. The increased cost of pollution control could result in a significant part of this industry choosing to close rather than to install necessary equipment.

To avoid these effects, the group of regulations affecting battery recycling (and smelter operation) have been clustered so that they can be considered in a cohesive EPA plan to minimize lead releases and maximize battery recycling. such a cluster approach could also encourage the smelting industry to adopt new technologies that would provide more efficient and cost-effective means of complying with the set of regulations.

QUESTION #10

Q. **Why has EPA decided to place such a high priority on reducing the amount of lead in the environment?**

A. EPA is placing such a high priority on reducing the amount of lead in the environment because of its adverse health effects particularly in children and fetuses. Lead poisoning is the most common and socially devastating environmental disease of young children. The American Academy of Pediatrics calls it an epidemic.

QUESTION #11

Q. **What are some of the most common effects of lead at high levels of exposure?**

A. Effects of exposure to lead at high levels include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes and hypertension.

QUESTION #12

Q. **How many Superfund sites does today's enforcement action effect?**

A. DOJ, on behalf of EPA, filed six complaints and lodged two consent decrees in various U.S. Federal District Courts. EPA is also taking administrative action at three sites. A total of nine Superfund Sites are being addressed today.

QUESTION #13

Q. **How many sites on the Superfund National Priority Listing (NPL) have identified lead as a primary contaminant?**

A. Over 400 NPL sites have listed lead as one of a number of contaminants of concern, other contaminants include Volatile Organic Compounds (VOCs), heavy metals, PCBs, etc.

QUESTION #14

Q. **Why is EPA focusing only on a selected few lead sites with over 400 known sites in existence?**

A. Of the 400+ Superfund sites, lead is only one of several known contaminants. Another contaminant may be causing the most risk and driving EPA's remedial action. Moreover, the Superfund program requires that today's actions conform to the Superfund prioritizing processes established by the NPL and the National Contingency Plan (NCP). Superfund must balance the health threats of lead contamination with other threats posed by other Superfund sites.

Today's Superfund action is a small part of the overall Superfund process. The 400 sites mentioned earlier have already passed through Superfund's screening and prioritizing process. About 80% (this is an approximation) of those 400 sites have undergone a remedial investigation and feasibility study that gathers site specific data and provides alternatives to site cleanup while 31% (exactly 126) of those sites have a Record of Decision with a selected cleanup alternative.

To summarize, EPA is currently taking action at these sites, but they are in different stages of remediation. More importantly, EPA has screened the sites for any immediate threats to human health and the environment and in many instances, EPA or the responsible party may have already taken some action, like security fencing, immediate removal of drums, soil treatment, water line hookups, etc. to limit exposure to the Superfund site.

QUESTION #15

Q. **In what ways will the Superfund actions taken today help reduce lead exposure?**

A. Superfund's enforcement actions will increase attention on lead contaminated sites and will create the impetus for

response actions by potentially responsible parties, thus reducing costs to the government. EPA's actions today will reduce the risk of exposure from lead contamination at Superfund Sites by requiring cleanup of soils and groundwater, and in some instances, require the soil cleanup of playgrounds, schools, day care centers, yards, and unpaved streets and alleys. (i.e. the ASARCO site in East Helena, Montana, and the NL site in Granite City, Illinois).

EPA has used Superfund monies in the past to cleanup lead contaminated sites because potentially responsible parties (PRPs) refused to take action. EPA, by filing these suits today, will show PRPs the government is serious about recovering our costs and enforcing any order issued to the PRPs. EPA's vigorous enforcement actions should make the PRPs less willing to be recalcitrant at future Superfund Sites resulting nationally in a more expeditious cleanups at less expense to the federal government.

QUESTION #16

Q. **What is Superfund's role in EPA's effort to focus on lead contamination and reduce its harmful impacts?**

A. Superfund's role in the lead initiative is to reduce any threats to human health or the environment caused by lead contamination at Superfund sites.

EPA has selected Superfund sites which were targeted for action under the Superfund program based on prior EPA response or enforcement actions. Those sites being highlighted today involve actions that will reduce lead contamination at Superfund sites either through EPA's response actions or the actions of potentially responsible parties.

QUESTION #17

Q. **Does this enforcement action only involve sites that are on the NPL?**

A. With the exception of one site (B & H Battery, Norco, CA.), all our judicial actions involve NPL sites. The three administrative actions do not involve sites on the NPL The non-NPL sites required immediate action based on threats to human health and have not yet undergone the Hazard Ranking Score (HRS) process that determines where (or whether) a site will be placed on the NPL.

QUESTION #18

Q. **Will the cleanup actions affect the health and safety of nearby residents?**

A. Superfund cleanup actions, whether undertaken by EPA or the potentially responsible parties, are closely monitored, and prior to any response action (except in emergencies), a health and safety plan for the cleanup actions must be approved. Of course, the reason for the action in the first place is because of the danger to human health and the environment from the present contamination.

QUESTION #19

Q. **What is EPA's, lead contamination cleanup level for soils and groundwater?**

A. EPA is currently revising its lead soil cleanup standards at Superfund sites. New guidance on this will be forthcoming and will probably be issued later this year (current standards are between 500ppm-1000ppm and are based on Center for Disease Control standards, See "Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites" (Sept. 7, 1989, H. Longest). EPA's groundwater standard is based on EPA's new lead level just issued (50 ppb triggering level).

QUESTION #20

Q. **We notice that EPA is taking Superfund action at a couple of sites (ASARCO in East Helena, Montana, and NL Industries in Granite City, Illinois) that involve lead contaminated soils in residential or urban areas. Has EPA taken similar action at other residential sites in the past? Or does EPA contemplate taking such action in the future?**

A. EPA has, in the past, taken action at other Superfund sites that involve lead contamination in residential areas. EPA is also taking action at other sites.

For example, EPA is cleaning up over 150 properties (including 140 residences) at the Marjol Battery site (Region III) in Throop, Pennsylvania. **EPA is cleaning up soil contamination at the Bunker Hill site (Region IX) near Kellogg, Idaho (fairly political, may not want to mention this, DOJ (re: John C. Cruden) had some problems.** At the Interstate Lead Co. site in Leeds, Alabama, EPA and responsible parties took action to reduce exposure to lead contamination from airborne particulates. Last September, EPA and the state of Utah agreed to spend $22.6 million to clean up lead and arsenic contaminated soils in residential yards and businesses near the Sharon Steel-Midvale Tailings hazardous waste site in Midvale. (This is the same case where EPA's total settlement with PRPS exceeded $60 million).

Other sites include:

1. The Beachwood Berkeley Wells site in New Jersey where EPA connected affected private wells with a public drinking water supply. The private wells were contaminated by lead and other heavy metals.

2. The Smuggler Mountain site in Colorado where EPA plans on removing lead contaminated soil from residential areas.

QUESTION #21

Q. **We understand that lead contaminated soil in residential and urban areas is a problem that needs to be addressed because of the harmful impacts of lead on children. What, if anything, is EPA doing to rectify this situation?**

A. **(This is what we are doing. However, ORD and OERR may want to be notified of the potential for airing this in a public and national forum).**

The Superfund Amendment and Re-authorization Act of 1986 added Section 111(a)(6), which states inter alia: "The President shall use the money in the Fund for the following purposes....

Payment of not to exceed $15,000,000 for the costs of a pilot program for removal,decontamination, or other action with respect to lead-contaminated soil in one to three different metropolitan areas.

Based on the amendment, EPA is undertaking three urban lead soil studies in Boston, Cincinnati, and Baltimore based on the 1986 Amendments to the Superfund Law. EPA's pilot programs are not yet completed, but most of the data has been compiled. The studies are designed to understand more fully the possible abatement measures necessary to reduce lead exposure.

EPA is taking action in cooperation with HUD and other governmental agencies to address this problem.

At this time, the problem is, we do not know that soil is the primary cause of elevated lead levels in urban children. Most likely, the causes are varied and there is no guarantee that a costly EPA abatement action would actually work. We need more and better information about this subject.

QUESTION #22

Q. **Are other groups besides children particularly at risk for exposure to lead?**

A. Some groups of adults are also at risk, especially pregnant women as lead in their blood can be transmitted to the fetus, and workers in some occupations who can be exposed to dangerous levels of lead.

QUESTION #23

Q. **Has the federal government made progress in the past decade in reducing the amount of lead in the environment?**

A. The federal government has made considerable progress. This is reflected in the dramatic drop of lead in children's blood level due to federal action e.g., EPA's success in phasing out lead in gasoline.

QUESTION #24

Q. **How does the Office of Enforcement' lead initiative relate to EPA's Lead Strategy?**

A. The Office of Enforcement's lead initiative is part of EPA's Strategy for Reducing Lead Exposures Lead Strategy (Lead Strategy). The goal of the Lead Strategy issued on February 26, 1991, is to significantly reduce lead exposures to the public and the environment with particular interest in children. EPA is working under the Lead Strategy to reduce lead emissions through regulatory

research and enforcement, pollution prevention control programs, and educational training activities. The Office of Enforcement'S lead initiative is intended to be an integral component of EPA's Lead Strategy with an emphasis on improving compliance with existing regulations governing lead emissions.

QUESTION #25

Q. **Why are no enforcement actions being brought against sources identified on the Toxic Release Inventory (TRI) list of the top 100 sources of lead emissions in the United States?**

A. Just because sources are major emitters of lead emissions does not mean that they are not in compliance with the applicable environmental regulations. Enforcement actions are brought only against sources that are alleged not to be in compliance with environmental regulations.

QUESTION #26

Q. **Why are no enforcement actions in today's lead initiative being bought against lead smelters?**

A. As of October 1990, EPA's Office of Air and Radiation (OAR) had conducted inspections of all 29 smelters in the country (27 are currently in operation). At this time 22 of the 27 smelters in operation are in compliance with Federal and State air pollution requirements, six are in violation and one is currently being evaluated. The six violating sources have been the subject of Federal and State enforcement actions initiated before the Office of Enforcement's lead initiative commenced. EPA and the affected States are currently negotiating with the six smelters that are not in compliance to ensure the expeditious installation of controls and return then to compliance.

QUESTION #27

Q. **What is RCRA?**

A. The Resource Conservation and Recovery Act (RCRA) is the nation's primary authority for dealing with the management and handling of solid and hazardous wastes.

QUESTION #28

Q. **What are the goals of RCRA?**

A. The goals established by RCRA are to protect human health and the environment, to reduce waste and conserve energy and natural resources and to reduce or eliminate the generation of hazardous waste as expeditiously as possible.

QUESTION #29

Q. **Why are so many of the actions being filed in this enforcement initiative being brought under RCRA?**

A. RCRA is a multi-media statute that provides tremendous opportunities for addressing diverse environmental problems and contains legal authority for addressing air, surface water and soil contamination.

QUESTION #30

Q. **How does enforcement activity against recyclers relate to the Agency's interest in promoting recycling?**

A. EPA is trying to promote environmentally sound recycling. In this regard, RCRA mandates that recycling be done in a manner that is consistent with protecting human health and environment.

QUESTION #31

Q. **How can EPCRA and/or the Toxic Release Inventory (TRI) help reduce exposure to lead?**

A. Because TRI requires manufacturing industries to report publicly their releases of lead and lead compound into the environment, the inventory is a key tool in targeting industries and specific facilities for enforcement. Of course, not all major emitters of lead are violating the law, but the TRI provides the public, EPA, and the regulated community the data we need to make intelligent decisions about lead emissions. It allows us to relate releases of lead into the environment to increased risks of lead exposure, to set priorities in terms of industries and locations like inner cities for developing ways to decrease lead releases into the environment, it allows us to identify those types of emission and other releases that are in need of new regulations or legislation.

Because EPA, State, tribal and local governments and the public rely on TRI to make informed decisions, TRI data must be complete, accurate, and reliable. EPA's enforcement efforts are designed to bring lead manufactures into compliance with the § 313 reporting requirements and therefore enhance the integrity of the TRI.

QUESTION #32

Q. What is the enforcement history of EPCRA § 313 cases?

A. In fiscal year 1989, EPA issued 132 complaints, closed 26 cases, and assessed $489,930 in civil penalties. In fiscal year 1990, EPA issue 210 complaints, closed 42 cases, and assessed $535,553 in civil penalties. In fiscal year 1991 EPA filed over 135 cases seeking over 2.6 million dollars.

QUESTION #33

Q. What are the lead compounds that must be reported under TRI?

A. Lead and lead compounds are subject to § 313 Reporting to the Toxic Release Inventory pursuant to EPCRA § 313(c). Industries in SIC codes 20 - 39 are required to report EPCRA 313 information. Lead releases would be expected to be reported primarily from industries in SIC codes 33 and 34 (Fabricated Metals and Primary Metals, respectively).

Industry reported release or transfer of 22,434,784 pounds of lead to the TRI in 1988, as compared to a reported 47,615,994 pounds in 1977.[1] In 1988, the largest percentage of lead was released to land, accounting for 36.99% of total lead released. 4.31% of lead releases were to air, and only 0.53% of lead was released to surface waters. The majority of lead, 57.9%, was reported as transferred off-site for treatment, storage, or disposal. Texas had the greatest amount of lead releases or transfers of the 50 states.

The following lead and lead compounds are subject to § 304 reporting:

(1) Tetraethyllead and Tetramethyllead are on the list of EHS chemicals required to be reported.
(2) The CERCLA § 103 chemicals, found at 40 C.F.R. § 302.4, that contain lead are:

"lead and compounds"
Lead Arsenate
Lead, bis(aceto-O)tetrahydroxytri
Lead chloride
Lead fluoborate
Lead iodide
Lead nitrate
Lead phosphate
Lead stearate

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[1] EPA, **Toxics in the Community; National and Local Perspectives**, at 99 (September 1990).

Lead subacetate
Lead sulfate
Lead sulfide
Lead thiocyanate

QUESTION #34

Q. **Why are lead and other lead compounds listed as extremely hazardous substances?**

A. Because of their very serious effects upon human health and the environment.

QUESTION #35

Q. **What does the Clean Water Act require?**

A. The Clean Water Act regulates discharges of pollutants to "Waters of the U.S." (surface waters). It places enforceable limits on point sources" of pollution (eg. and of the pipe discharges) as opposed to "non point sources" (eg. agricultural run-off). The Act also requires industries to "pretreat" wastes that may damage, interfere with, or pass through the operation of a publicly-owned sewage treatment works, or that may contaminate sludge.

QUESTION #36

Q. **What is the NPDES Program?**

A. Industrial and municipal facilities need facility - specific NPDES permit limits governed by discharge limits set by EPA or an authorized State. EPA sets national technology-based discharge limitation that are implement through the NPDES permit system; each state sets water quality standards establishing beneficial uses for water within the state. Where the technology-based limits or controls are not sufficient to achieve the designated water quality standards, the water body is classified as water-quality-limited and additional steps are taken to achieve the water quality standards.

QUESTION #37

Q. **What action can EPA take if someone violates the lead limits in their permit and discharges lead without a National Pollution Discharge and Elimination System (NPDES) permit?**

A. EPA can bring enforcement actions against anyone who discharges without complying with their permit such as those who exceed their permit levels for lead. EPA can also bring enforcement actions against any person discharging a

pollutant, such as lead from a point source, who lacks the required permit. States are the primary enforcers, although EPA retains authority to take enforcement in authorized or unauthorized States.

QUESTION #38

Q. **What penalties may be imposed if EPA brings an enforcement action for a violation of the Clean Water Act?**

A. Under the 1987 amendments to the Clean Water Act, EPA may issue administrative orders requiring compliance within a specific time and may assess administrative penalties of up to $10,000 for each violation with a maximum ceiling of $125,000. EPA can also bring civil suits in a United States District Court seeking appropriate injunctive relief and civil penalties of up to $25,000 per day per violation.

QUESTION #39

Q. **What future and\or additional enforcement initiatives is EPA planning to take against major sources of lead emissions?**

A. Although no date has been set for additional enforcement initiatives targeting major sources of lead emissions, EPA will continue to make compliance with existing regulations an enforcement priority.

QUESTION #40

Q. **It appears that today's enforcement action's have not targeted the most egregious sources of lead emissions and that EPA is pursuing relatively simple enforcement actions rather than target the more complex, long term contributors to the lead problem ?**

A. Many of the enforcement actions being brought today have major environmental significance, i.e. a CERCLA Consent Order for the ASARCO\East Helena, Montana, Superfund site that will require the cleanup and removal of contaminated soil from daycare centers, parks, yards schools, playgrounds and unpaved streets and alleys in and around East Helena, Montana. This action, in particular, will reduce lead exposure to children living and playing in that area.

EPA is also seeking between $7 million and $15 million in penalties in an administrative case under RCRA involving Amoco Oil Company's Yorktown, Virginia refinery and is seeking more than $1 million in penalties in another Administrative case under RCRA involving AT&T's Richmond Works in Richmond, Virginia.

QUESTION #41

Q. Has EPA's phasing out of leaded gasoline significantly reduced the amount of lead being introduced into the environment?

A. As a result of EPA's lead phasedown regulations the amount of lead in gasoline has been reduced over 99% since 1975. The lead phasedown regulations reduced the amount of lead allowed in gasoline from the approximately 2.5 grams per gallon of the early 1970's, to 0.1 grams per gallon since 1986. In order to allow industry to achieve these greatly reduced standards, EPA in 1985-1987 allowed the banking and trading of lead rights, one of the Agency's first major market-based incentive programs.

QUESTION #42

Q. What previous enforcement actions have been brought by EPA involving the lead phasedown program?

A. Enforcement of the lead phasedown regulations has resulted in the issuance of over 130 notices of violation, with proposed penalties of $100,000,000. Penalties collected resulting from the settlement of lead phasedown cases, including expenditures to obviate economic benefit, are in the range of $20,000,000 to date. As a result of the lead phasedown regulations over 150,000,000 grams of excess lead were eliminated from gasoline production as a direct result of EPA's enforcement activities, with an estimated environmental benefit of over $40,000,000.

QUESTION #43

Q. What are the three major sources of exposure to lead?

A. The three major sources of elevated blood lead are lead-based paint, urban soil and dust (contaminated mainly by lead-based paint and gasoline) and lead in drinking water.

QUESTION 44

Q. What are other major sources of exposure to lead?

A. Other sources include stationary point sources, Superfund sites, municipal waste and sewage sludge incinerators, and use of lead in consumer products.

QUESTION #45

Q. **Isn't lead primarily an environmental threat to inner-city children and children living in public housing developments?**

A. Public health officials say lead is the No.#1 environmental threat to children whether they live in public housing or suburban homes.

Seventy percent of all private housing built before 1980 contains some lead paint.

QUESTION #46

Q. **If lead in paint is such a major source of lead exposure, particularly to large numbers of children, why is the Office of Enforcement's lead initiative not addressing this topic?**

A. EPA at the present time is lacks the statutory jurisdiction to address the very serious problem of lead in private housing.

EPA is however working with other federal agencies, e.g. the Department of Housing and Urban Development (HUD) and the Department of Health and Human Services (HHS) and other agencies to develop a comprehensive federal approach to deal with lead problems.

QUESTION #47

Q. **What environmental statutes are being used in today's enforcement actions against sources of lead emissions?**

A. Today's enforcement actions are being brought under six enforcement authorities: the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Clean Water Act (CWA); the Safe Water Drinking Act (SDWA); the Clean Air Act (CAA) and; the Emergency Planning and Community Right to Know Act (EPCRA).

QUESTION #48

Q. **How many of EPA's Regions are participating in today's enforcement initiative against sources of lead emissions?**

A. All of EPA's (10) ten Regions are participating in the Office of Enforcement's lead initiative.

QUESTION #49

Q. How many enforcement actions are being brought today?

A. 24 civil enforcement actions are being filed today.
12 administrative cases are being filed today.