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January 19

Office of Environmental Policy

Kathleen McGinty

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**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

**July 9, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #I-836**

TO: Legislative Liaison Officer -

AGRIC-CR - Hal Gross (all testimony) - (202)720-7095 - 230
COMMERCE - Michael A. Levitt - (202)482-3086 - 324
DEFENSE - Samuel T. Brick, Jr. - (703)697-1305 - 325
HHS - Frances White - (202)690-7760 - 328
INTERIOR - Ralph Hill - (202)208-6706 - 329
JUSTICE - Sheila F. Anthony - (202)514-2141 - 217
TRANSPORTATION - Tom Herlihy - (202)366-4687 - 226
CEA - Francine Obermiller - (202)395-5036 - 242
CORPS ENGINEERS - Susan Bond - (202)272-0030 - 239
ARMY CivilWorks - Morgan Rees - (703)695-1370 - 205

FROM: RONALD K. PETERSON (for)
Assistant Director for Legislative Reference

**OMB CONTACT: Holly FITTER (395-3233)**
**Secretary's line (for simple responses): 395-6194**
Robert FAIRWEATHER (395-6834)

SUBJECT: **EPA Proposed Testimony RE: HR 31, Beaches Environmental Assessment, Closure, and Health Act of 1993**

**DEADLINE: 10:00 AM July 13, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
M. Mitchell - 3019
J. Payne - 9215
D. Tangherlini - 8026
K. McGinty
B. Burke

13 page

*July 8, 1993*
*DRAFT*

***TESTIMONY OF***
***MARGARET J. STASIKOWSKI***
***U.S. ENVIRONMENTAL PROTECTION AGENCY***
***BEFORE THE***
***SUBCOMMITTEE ON OCEANOGRAPHY, GULF OF MEXICO,***
***AND THE OUTER CONTINENTAL SHELF***
***AND THE***
***SUBCOMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES***
***COMMITTEE ON MERCHANT MARINE AND FISHERIES***
***U.S. HOUSE OF REPRESENTATIVES***

Good afternoon, Chairmen and Members of the Subcommittees. I am Margaret J. Stasikowski, Director of the Health and Ecological Criteria Division, Office of Science and Technology, in the Office of Water, U.S. Environmental Protection Agency (EPA). I am accompanied today by Stephen A. Schaub, Senior Microbiologist in my Division. Thank you for the invitation to be here today and to have the opportunity to discuss H.R. 31, the Beaches Environmental Assessment, Closure, and Health Act of 1993.

Introduction

Everyone should be able to enjoy a day swimming at our nation's beaches without having to worry about health risks from infectious diseases. The Agency understands the importance of our coastal waters as a resource for recreation by visitors from around the world. Tourism at our coastal areas is also important commercially as American and international visitors alike generate billions of dollars annually. As the Federal agency with primary responsibility for implementing the

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Clean Water Act, EPA is fully committed to achieving the goal of maintaining fishable and swimmable waters nationwide.

We support the concept of protective bathing beach water quality criteria and consider it important to provide consistent protection of the quality of U.S. coastal and Great Lakes recreational waters. The increased population of our coastal areas due to the constant migration of industry, business, and households places continually increasing pressure on the environmental quality of these waters. Before commenting on the specific provisions of the bill, I would like to discuss our current understanding of the problem and the Agency's plan to address its various aspects.

Current Activities to Address Microbiological Pathogens

Some of the major sources of microbiological pollution that contaminate coastal waters and consequently lead to beach closures or advisories include overloaded sewage treatment plants, discharges of untreated sewage from combined sewer overflows (CSOs), polluted stormwater runoff from urban and various nonpoint pollutant sources. The Agency has a number of efforts underway that will help to reduce contamination from these sources and bring about permanent improvements in coastal water quality.

The Agency has proposed a draft national policy for managing CSOs, that recognizes their site-specific nature and the needs of State and local governments to deal with them. We have developed stormwater regulations and have permit

application requirements for the largest municipal and industrial sources. We have also requested additional funding for sewage treatment plant construction to ensure adequate treatment for all coastal areas.

In addition, the Coastal Zone Act Amendments of 1990 have provided a strong approach for States to control nonpoint source pollution in their coastal zone.

Nevertheless, we recognize that, in some cases, pollution of coastal waters is still a problem and additional measures must be taken to protect the public. Monitoring of coastal waters to protect recreational users varies from State to State. Some States have active monitoring programs, while others do not. We are aware that these inconsistencies have caused concern and confusion in the mind of the public.

Negotiated Rulemaking

In September 1992, we began a fact finding study that is the first stage feasibility assessment of a negotiated rulemaking process with a diverse group of interested parties to explore the issues of national microbiological criteria, monitoring requirements, and closure standards for beaches. Included in our interviews were State and local health agencies, environmental groups, industry representatives, scientists and other Federal agencies. This first phase was completed during June of this year. Based on the consultations with more than 50 interested parties, there are indications that a negotiated, consensus building

regulation is the best approach. It appears that proceeding to the second phase of negotiation would be a beneficial rulemaking effort.

During the discussions, concerns were raised whether uniform, comprehensive, national microbiological standards are technically feasible given the diversity of geographic and aquatic conditions nationwide. Variations in potential pollutant types and sources, climatic differences, and levels of salinity are important considerations in this regard. Limitations in available scientific information were also discussed.

In developing the budget for fiscal year 1995, we are preparing a plan that includes estimates of resources required to complete the negotiated rulemaking and the resources required for the research program to improve our knowledge of microbiological contamination in recreational waters. The funding and timing for new beach regulations brought about through this legislation or through negotiations with stakeholders will be considered with other high priority statutory and court-mandated programs which EPA must strive to complete. If, after careful consideration of all factors involved, a national program is deemed appropriate, a continuation of the negotiated rulemaking could be pursued to produce a consensus agreement on recreational water criteria or standards, monitoring approaches, and beach notification/closure and reopening guidelines.

As you can see, with the existing resources, we have a full agenda underway to protect our coastal waters for all Americans and our international visitors. In some cases it is a matter of continuing implementation of existing

programs; for others we must seek new solutions to the remaining problems. Some States are doing a very commendable job in monitoring recreational waters and in protecting beachgoers from potentially harmful pollution. We encourage them to continue and invite the other States to join in on the protection of our recreational waters. We invite and actively encourage the involvement of all those interested in this process.

EPA Perspectives on the Proposed Legislation

Let me now turn to the provisions of H.R. 31, the B.E.A.C.H. bill. We agree that recreational water standards, monitoring methods, and pollution notification requirements to safeguard swimmers should utilize a consistent approach as demonstrated in the revised EPA Ambient Water Quality Criteria for Bacteria prepared in 1986. In the interest of public health, it is important that information on harmful microbiological pathogen pollution be conveyed to all potential recreational water users by either informing them of the hazards or preventing their contact with these disease causing pollutants through the States efforts in public notification or closure of beaches.

As I have already stated, prevention of recreational water pollution and the establishment of consistent microbiological standards, monitoring methods, and notification/closure criteria and their application in the protection of public health is a task that requires cooperation among all stakeholders. It is important that the science be developed to provide the data base on the microbiological pathogens of

concern. This would include the nature and fate of the organisms in recreational waters, the development of rapid, reliable and cost effective methods to detect and quantify their presence, the determination of their infectious dose, and the assessment of health risks to recreational users. Leadership by State and local governments as well as persons benefiting from the recreational water resources is essential and should be the driving force in the establishment and implementation of standards, monitoring, and enforcement of microbiological protection based upon the scientific data. The stakeholders must be involved in the difficult decisions of recognizing the hazards, determining acceptable risk levels, and providing the means to reduce pollution or to notify/close recreational areas to protect the public's health.

**Water Quality Criteria and Standards**

As with the earlier beach bills passed by the House of Representatives, Section 3 of the bill requires EPA to provide criteria for pathogens to be used in assessing coastal recreation waters. EPA's existing 1986 recreational water criteria (using enterococci and E. coli bacteria) are designed to be protective for pathogenic microorganisms that cause acute gastrointestinal diseases which originate in human fecal matter (such as would occur from sewage sources). These illnesses are caused by exposure principally through oral uptake from immersion of the head in water.

Through additional studies we need to identify indicator organisms, perform epidemiological studies, and establish criteria that would be protective for other types of fecally transmitted microbial diseases, such as hepatitis A, and other viral and protozoan diseases.

In addition to microbial pathogens that cause gastrointestinal illness, recreational water exposure can also transmit many other microbial pathogens that cause eye, ear, nose, throat, respiratory tract, and skin infections. This too should be an area of further research. Several previous and ongoing epidemiological studies of recreational waters in the U.S. and Great Britain indicate that the incidence of these other microbial diseases may be similar to the incidence of acute gastrointestinal diseases. Some non-gastrointestinal disease causing organisms occur and grow naturally in water, others are transmitted due to the close proximity of bathers in crowded areas, some are from animal sources and yet others occur along with the fecal pathogens from sewage contamination.

It is important that as we expand our knowledge of both sewage borne and other microbial pathogens, we continue with our existing indicators in developing control strategies, monitoring methods and risk assessments. As the new data and analytical methodologies come about they should be used to improve the framework of our strategies, monitoring methods, and risk determinations to enhance our ability to protect the health of recreational water users.

National microbiological criteria would provide consistent health protection of recreational water users. However, as we consider national criteria, we need to

allow for flexibility in the State-to-State application of the criteria to account for the diversity of geographic and aquatic conditions nationwide. EPA recommends that initial efforts should center around the States' adoption of existing EPA ambient water quality criteria as minimal standards, possibly with minor adjustments to reflect health effects and monitoring data developed since the 1986 criteria. To date only eight States, the District of Columbia, and several territories and native american tribes have adopted the 1986 criteria.

We applaud the bill's efforts [section 3(b)(2)] to ensure State adoption of EPA criteria published under section 304(a)(9) of the Clean Water Act, however we offer a modification. We believe the States should adopt EPA's published criteria within a fixed time, such as three years, after EPA publishes updated guidance. If a State fails to adopt the criteria within three years, EPA's criteria should become applicable water quality standards, without further promulgation by EPA. We believe adoption of criteria in this way will be the most cost effective and expeditious route to ensure adequate protection of coastal recreational waters.

**Coastal Beach Water Quality Monitoring**

EPA agrees with the need for consistent monitoring practices as indicated in H.R. 31. State and local governments should have adequate, consistent monitoring practices. However, experience has shown us that there has been resistance to the transition from the old criteria and monitoring methods. Discussions with State and local governments indicate they may be reluctant to

invest in new equipment and training in order to use procedures with which they are unfamiliar.

Nonetheless, we will continue to encourage the State and local governments to change to improved monitoring methods and criteria. We believe these improved tools are more protective of human health, despite the cost to State and local governments. New legislation should consider the funding needs for State and local governments to adopt any new beach criteria, monitoring methods, closure requirements, and the seasonal beach monitoring implementation without excessive cost burdens. A 1993 report by the Natural Resources Defense Council shows that current costs, from a sampling of States and counties, to conduct microbiological monitoring programs, range from $541 to $7,500 per mile of beach, annually.

A shortcoming of current methods to detect microbial pathogens is that they all require 24 hours or longer to provide results. This analysis period reduces the ability to respond in a timely fashion with closures or other types of notification to protect recreational users. There are some existing efforts to develop new microbial indicators to shorten the required monitoring time.

We also have identified the need to explore other indicator organisms and supplemental indicator systems such as rainfall events during which pollutants can be washed into recreational waters. With these supplemental methods we hope to shorten the detection time, broaden the range of fecal pathogens that can be monitored, and provide a capability to monitor the non-fecal pathogen risks. Many

of these efforts may require development and standardization of new sampling and analysis methods, and the subsequent verification of their relationships to the incidence of disease. The time and expense required to establish this information would be considerable and constitute a significant EPA research program. It is estimated that final comprehensive EPA standards, monitoring methods, and notification procedures could cost a total of 3-5 million dollars and could take 3-4 years or longer. Implementation would also have a significant cost. There currently is no funding or resources available at EPA for these efforts.

The EPA supports State efforts to provide recreational water pollution notification requirements through State and local agencies as indicated in the bill. It is appropriate that they inform recreational water users of microbiological hazards through public notice.

Just as we now have criteria endpoints for States to use to require notification or closure of contaminated beaches, we also will need guidelines for States to use in determining when recreational waters can be reopened based on appropriate measurements of water quality.

Floatables and Marine Debris

Marine debris in our coastal waters has been a concern that we are addressing at EPA, especially plastic debris and other floatable materials and we are pleased to see it addressed in H.R. 31. The Agency also has a number of actions underway to assess, monitor, and control sources of marine debris.

We also note that the bill places new requirements on the States for floatables under the Coastal Zone Management Act (CZMA). We are currently working under the Clean Water Act regarding the control of floatable debris from CSOs and stormwater discharges.

Conclusion

In conclusion, EPA supports the concept and approach of this proposed legislation and we agree with many of its provisions. We recognize that there are science issues that need to be addressed to further our understanding of potential pollution hazards to recreational waters. However, as I have stated, the Agency has many activities already in place to address this risk to the health of our recreational water users, and as with any new program, we must always weigh these risks against other competing demands on our resources.

Chairman, this concludes my statement. I am happy to answer any questions you may have.

EPA has conducted field investigations of the land-based sources of debris and prepared reports assessing plastics problems in U.S. harbors. To characterize the floating debris in U.S. harbors, EPA surveyed the harbors of Boston, New York, Philadelphia, Baltimore, Norfolk, Miami, Houston, San Juan, Mayaquez, Seattle, Tacoma, San Francisco, Oakland, and Honolulu. Among other things, we found that plastics comprised over 80% of the debris.

We also noted during these field surveys that sewage, medical and drug related debris was found to be most abundant in several cities like New York, Boston, and Philadelphia, which do not have upgraded combined sewer systems where raw sewage and storm water is discharged into the harbors during wet weather. We also found substantial amount of marine debris in Baltimore which does not have CSOs. Materials released from several of the CSOs in two cities, Philadelphia, PA, and Boston, MA, were sampled, identified, and quantified. Storm drains have also been sampled to determine their significance as a source of marine debris. This information on sources and the presence of debris in U.S. harbors is useful as an educational tool. It will also be helpful in the future to identify the types of technologies needed to control debris released from CSOs and storm sewers.

EPA is working with NOAA through an inter-agency Agreement (IAG) to fund the annual international beach cleanup activities organized by the Center for Marine Conservation (CMC) and to maintain several offices for information distribution. In order to better understand the impacts of our actions on the debris

problem, EPA is developing a statistically designed beach sampling methodology to be able to make a statistically valid trend assessment.

Through a grant to CMC, EPA is funding a project to design these statistical beach cleanups. This activity is very similar to one of the requirements in the proposed Beach Bill. This project involves local volunteer groups, "Citizen Pollution Patrols" which are organized to perform uniform assessment, monitoring and reporting of marine debris. The first year of this pilot study has been completed, and the results indicate that it is possible to use properly trained volunteers to collect statistically valid information on marine debris. This study we've undertaken represents an excellent opportunity to develop a national methodology for the sampling of marine debris and to obtain reliable data to better determine and identify trends. EPA and NOAA are organizing a workshop, to be held in November 1993, to discuss this new methodology and those used in other programs to reach national recommendations on a single methodology based on all available data.

Regarding the proposed EPA report to Congress under section 5(b) of this bill, we would like to suggest that because floatable materials are not indicators of human-specific pathogens in coastal recreational waters, the requirement of section 5 (b)(2) on floatables should be included as a requirement of section 406 (c)(1) instead. This would keep the Federal floatables requirements of the bill in one place.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

SPECIAL

July 14, 1993

**LEGISLATIVE REFERRAL MEMORANDUM**

LRM #M-498

TO: Legislative Liaison Officer -

DEFENSE - Samuel T. Brick, Jr. - (703)697-1305 - 325
JUSTICE - Sheila F. Anthony - (202)514-2141 - 217

FROM: RONALD K. PETERSON (for) Ronald K. Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Mark KRAMER (395-3445)**

SUBJECT: EPA Qs and As on Environmental Issues at Closing Military Bases

**DEADLINE: 10:00 AM July 19, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
L. Haber
K. Glozer
R. Belzer
K. McGinty
B. Burke
H. Paster

** DRAFT 6/29/93 **

The Honorable Max Baucus
The Honorable John Chafee
United States Senate
Committee on Environment and Public Works
Washington, D.C. 20510-6176

Dear Senators Baucus and Chafee:

Thank you for your interest and the opportunity to respond to additional questions as a follow-up to the hearing that was held on May 27, 1993. Our responses to your questions are enclosed.

We look forward to continuing to work with you on base closure issues, as we strive to achieve expeditious base closures and environmental cleanup, to promote productive reuse of closing military bases.

Sincerely,

Tad McCall, Jr.
Acting Deputy Assistant Administrator
for Federal Facilities Enforcement

Enclosure

DRAFT

QUESTIONS FROM SENATOR BAUCUS

1. Question: What is to prevent DoD from using long-term leasing as a mechanism to avoid having to fully cleanup bases prior to allowing them to be transferred for reuse as would be required under Section 120(h)(3) of CERCLA?

Answer: Leases do not allow DoD to avoid cleanup liability under CERCLA. DoD remains legally accountable as owner of the property. At NPL sites, DoD also remains subject 11to the requirements of existing Federal Facility Agreements, which are mandated by section 120(e)(2). FFA's have enforceable deadlines and are the formal vehicle for EPA oversight, including the statutory requirement for EPA concurrence on remedy selection. These agreements provide that EPA is the final decision maker on issues related to schedules for the implementation of remedial actions.

2. Question: What is EPA's view of leasing arrangements? Are long-term leases consistent with section 120? Will leases complicate EPA's ability to oversee the clean-up of these sites?

ANSWER: A. Leasing Arrangements- EPA's first concern at all NPL sites is to ensure that contaminated property is cleaned up to a level that is protective of human health and the environment. Along with Congress and DOD, EPA recognizes, however, that when a military base closes the economic impact on the surrounding community can be devastating. EPA has not objected to DOD using leasing arrangements so long as such transfers do not threaten human health or the environment or unreasonably interfere with CERCLA response actions.

B. Section 120- The United States has taken the position that the restrictions on transfers contained in CERCLA section 120(h)(3), as amended by the Community Environmental Response Facilitation Act (CERFA), apply only to deed transfers. Section 120(h)(1) requires a federal agency to include in any "contract for the sale or other transfer of real property" a notice of any hazardous substance activity on that property. In contrast, section 120(h)(3) requires that "each deed entered into for the transfer" of property on which there was any hazardous substance activity contain a covenant that all remedial action has been taken on the property. Hence, by its terms, section 120(h)(3) only applies to deeds. It must be noted that the United States is in litigation in the federal district court for the District of New Hampshire on the issue of whether a long-term lease is tantamount to a deed transfer. Conservation Law Foundation, et al. v. Department of the Air Force, et al., Civil Action No. 1:92-CV-156-M.

C. Impact on EPA's Oversight- In spite of the economic pressure to place property at closing bases back into economic



Steve Rollins 260-5417

reuse, EPA must maintain the ability to carry out its primary role of overseeing response activities. In light of the dual challenges of expeditious transfer of property and protection of human health and the environment, EPA has been working with DOD on procedures for identifying parcels of property suitable for leasing and on model lease provisions to ensure that lease transfers do not threaten human health or the environment or interfere with the cleanup process. To date, EPA has not experienced any significant interference with oversight of response actions caused by the leasing of property.

3. **Question:** To what extent do you anticipate that the CERFA process will result in the expedited transfer of economically desirable, clean parcels of land?

**Answer:** We believe that CERFA will identify some parcels, but we are uncertain how large a universe of economically desirable parcels will be identified by this process. However, local reuse groups will be made cognizant of clean parcels that they might not have been aware of previously. DoD may have amplifying information regarding the nature of parcels which they believe will be identified under CERFA.

Our interpretation of CERFA's language that "no hazardous substances or petroleum products were stored, disposed of, or released" on a parcel is strict and may lead to the identification of only a limited universe of parcels. However, EPA is working with DoD to have DoD identify other parcels that may be suitable for reuse (e.g., housing units where only storage has occurred with no release).

4. **Question:** What is the effect of non-concurrence?

**Answer:** The effect of non-concurrence under CERCLA section 120(h)(4)(B) is that the parcel is not clean as defined by CERCLA section 120(h)(4)(A), i.e. it is not real property " on which no hazardous substances and no petroleum products or their derivatives were stored for one year or more, known to have been released, or disposed of." The non-concurrence under section 120(h)(4)(B) would in most cases have no effect on whether the property may be suitable for deed transfer under 120(h)(3) or for lease transfer. CERFA added no new prohibitions or restrictions on property transfers other than the covenant requirements in section 120(h)(4)(D) for transfers of property identified as clean under section 120(h)(4)(A).

5. **Question:** Is DoD working with the States and EPA to assure that they will be able to concur in a timely manner?

**Answer:** EPA believes that close coordination between DoD and the regulators, including the sharing of documents as they are developed to facilitate concurrence, will assist in achieving the necessary concurrence within the required time frames. EPA has requested a "staggered" submission of CERFA documentation so that the regulators may meet the required review times. EPA is unaware of State and DoD coordination with regards to base closure.

6. **Question:** To what extent is it appropriate for the DoD to tailor the degree of cleanup to the proposed reuse of a parcel?

**Answer:** The National Contingency Plan (NCP) and relevant EPA guidance provide flexibility to balance the need to select protective remedies and the need to ensure appropriated funds are not expended for unattainable remedies. The NCP does not dictate a specific future land use for estimating potential exposure within the risk assessment process. Future land use can and should be made on a site-by-site basis in consultation with all federal, state, and local stakeholders.

Land use is not a direct parameter for remedy selection under CERCLA. It is not one of the nine criteria for remedy selection per se, but it may factor in through a determination of overall protectiveness, state and community acceptance, and other criteria.

7. **Question:** What would happen if the future use changed from the reuse that was originally anticipated? Would tailoring of cleanup to a proposed reuse foreclose other options for use in the future? What would happen to the remaining contamination if the use changed? Who would be responsible for the cleanup to a second reuse?

**Answer:** If the future use requires a more stringent cleanup level, then additional cleanup would need to be conducted prior to the change in use to ensure protection of human health and the environment. Responsibility for the cost of additional cleanup is one of several policy issues which EPA is attempting to address.

8. **Question:** Would allowing reuse prior to full cleanup make it more difficult or expensive to accomplish the cleanup?

**Answer:** EPA has developed model lease provisions intended to assure that activity allowed under a lease will be structured to avoid this very concern and ensure that the reuse will not impede the cleanup.

However, there is the potential to complicate the cleanup if new (lease) activities are being conducted on a parcel that is in the

cleanup process or for a site where final cleanup has not yet been determined.

9. **Question:** How has the decrease in EPA's budget affected EPA's ability to oversee federal facility environmental compliance and cleanup?

**Answer:** EPA is concerned about being able to keep pace with our oversight requirements. EPA's oversight obligations are growing as existing projects move through the process and as additional Federal facilities are being added to the NPL.

For closing bases, the need for EPA concurrence on uncontaminated parcel documentation and demonstrations that remedies are operating properly and successfully will place additional responsibilities on the EPA regional staff workloads.

10. **Question:** Do you have any suggestions as to how EPA can keep pace with the activities of DoD and DOE?

**Answer:** Only so many efficiencies can be gained to accommodate the funding shortage. For example, if EPA is included throughout the investigation and cleanup process and standard guidance is followed, presumably there will be "economies of scale" through better investigations and remedy selections, allowing for more efficient design and construction of the actual remedies. Additional efficiencies may be gained through improvements such as enhanced information exchange (e.g. electronic transfer of information). However, these efficiencies will not bridge the gap between our requirements and resources.

As the environmental restoration processes at DoD and DoE activities continue to mature, requirements for EPA oversight of environmental cleanup and compliance continue to grow. However, as EPA implements President Clinton's Executive Order to streamline the Federal workforce, it is cutting its workforce across the board. Therefore, while the EPA is shrinking, the programs we are overseeing are growing. This inconsistency in funding places EPA in a difficult position.

To keep pace with these growing requirements, EPA is suggesting a more strategic approach to the waste management and cleanup problems of the Federal government. We propose that Federal agencies fund this strategic approach by setting aside 1 percent of the portion of their budgets dedicated to environmental cleanup and compliance. These funds would supplement EPA's efforts at Federal Facilities sites. Additionally, we are recommending increased budget flexibility, which will allow us to reprogram money across accounts, e.g. contracts to salaries or travel. Ceilings on these accounts, limit the Agency's ability

to implement mandated legislative requirements that are often enacted after the budget is formulated and approved.

## QUESTIONS FROM SENATOR CHAFEE FOR EPA

1. **Question:** Does the FY '94 budget contain a decrease in Federal Facility (FF) oversight? If so, how will you deal with the new responsibilities of CERFA and the FFCA with fewer resources?

**Answer:** Yes, the current FY '94 budget decreases EPA's resources for this work, and the challenge of how to manage an expanding universe with less resources is daunting. EPA along with other Federal agencies, is implementing President Clinton's Executive Order to streamline the Federal workforce. Resources in EPA's budget have been cut across the board.

We are continuing to strive for efficiencies, which may help to offset the funding shortage. For example, if EPA is included throughout the investigation and cleanup process and standard guidance is followed, presumably there will be some "economies of scale" through better investigations and remedy selections, allowing for more efficient design and construction of the actual remedies. Additional efficiencies may be gained through improvements such as enhanced information exchange (e.g. electronic transfer of information). However, these efficiencies will not bridge the gap between our requirements and resources.

To keep pace with these growing requirements, EPA is suggesting a more strategic approach to the waste management and cleanup problems of the Federal government. We propose that Federal agencies fund this strategic approach by setting aside 1 percent of the portion of their budgets dedicated to environmental cleanup and compliance. These funds would be used to supplement EPA oversight at Federal Facilities sites. Additionally, we are recommending increased budget flexibility, which will allow us to reprogram money across accounts, e.g. contracts to salaries or travel. Ceilings on these accounts, limit the Agency's ability to implement mandated legislative requirements that are often enacted after the budget is formulated and approved.

2. **Question:** The military has indicated that it intends to lease a significant amount of contaminated property to states or private parties until cleanup is complete. Judging from DoD's use of leases to date, the terms of these leases could be up to 100 years in length. In your view, isn't a 100-year lease really the same as transferring title to the property?

And if your answer is yes, isn't DoD just circumventing the requirement in the Superfund law that all remedial action be taken on the property before it is transferred? Does EPA currently exercise oversight over the negotiation of these leases? If so, why not? What changes in law or regulations are necessary in your view to assure that the proper environmental safeguards are built into any leases of contaminated property?

**Answer:** As we note in our response to Senator Baucus' question #2, the United States is in litigation in the Federal district court for the District of New Hampshire on the issue of whether a long-term lease is tantamount to a deed transfer. Conservation Law Foundation, et al. v. Department of the Air Force, et al., Civil Action No. 1:92-CV-156-M.

EPA has not objected to DOD's use of leases as a mechanism for getting parcels of property on closing military bases back into economic reuse. EPA has been primarily concerned with ensuring that leases on properties that are part of an NPL site do not threaten human health or the environment or unreasonably interfere with CERCLA response actions. EPA has not been involved in the negotiation of lease provisions concerning financial arrangements or length of lease periods. EPA and DOD have been working together to develop procedures for identifying parcels of land suitable for leasing and to develop model lease provisions to address EPA's concerns.

## QUESTIONS FROM SENATOR CHAFEE FOR BOTH DOD AND EPA

1. **Question:** Expand upon how some of the DoD/EPA recommendations might look in practice?

**Answer:**

a. Overlapping phases of the CERCLA process. This acceleration initiative involves beginning the next phase of the CERCLA process while final review of the previous phase is being completed. One example would be to start drafting the Proposed Plan while the Feasibility Study is being finalized.

b. Utilization of innovative technologies. Under certain conditions, closing bases could offer the right site characteristics to try new technologies that are close to the demonstration and validation phase. These technologies may have national application and the closing base could provide a test bed for investment.

c. Improving contracting procedures. Improving contracting procedures to allow for greater flexibility in responding to conditions discovered during the project (e.g., the need for additional wells or samples) could accelerate the cleanup process.

2. **Question:** Will CERFA put a significant amount of federal property back into productive reuse?

**Answer:** It is difficult for EPA to estimate this at this time. EPA has not received any specific information from DoD on this topic. DoD may have amplifying information regarding this.

3. **Question:** What role do you see for local communities around closing bases in the process of identifying clean parcels?

**Answer:** The statute provides that DoD make its proposals available to the public at the same time the proposal is given to EPA for concurrence. In addition, DoD may seek assistance in searching for historical information regarding the base or parcel. This might be in the form of local records or previous employees that might have records specific to the parcel. As a general matter to expidite the transfer process there has to be close coordination with the local community so that there can be a blaance between cleanup and reuse.

**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

URGENT

**July 16, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #M-505**

**TO: Legislative Liaison Officer -**

AGRIC-CR - Hal Gross (all testimony) - (202)720-7095 - 230
HHS - Frances White - (202)690-7760 - 328
OSTP - Susanne Bachtel - (202)456-7116 - 288

**FROM:** RONALD K. PETERSON (for) Ronald K. Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Chantale WONG (395-6944)**

**SUBJECT:** EPA Proposed Testimony on Health Risks Associated with Exporusre to Secondhand Smoke

**DEADLINE: 1:00 PM July 19, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

CC:
B. Clendenin
K. McGinty
A. Fraas
H. Paster

FAX 8pgs

**TESTIMONY OF**
**CAROL BROWNER**
**ADMINISTRATOR**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**BEFORE THE**
**SUBCOMMITTEE ON HEALTH AND THE ENVIRONMENT**
**COMMITTEE ON ENERGY AND COMMERCE**
**U.S. HOUSE OF REPRESENTATIVES**

**JULY 21, 1993**

Good morning, Mr. Chairman and Members of the Subcommittee. Thank you for the opportunity to appear before you today to discuss the adverse health effects of exposure to environmental tobacco smoke (ETS) and what Americans can do to reduce their health risks associated with exposure to secondhand smoke.

Environmental tobacco smoke, also called secondhand smoke, is a mixture of the smoke given off by the burning end of a cigarette, pipe, or cigar and the smoke exhaled from the lungs of smokers. This mixture contains more than 4,000 substances, more than 40 of which are known to cause cancer in humans and animals and many of which are strong irritants. Exposure to secondhand smoke is called involuntary smoking or passive smoking.

In January 1993, the Environmental Protection Agency (EPA) published an assessment of the respiratory health risks of passive smoking, entitled "*Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*". The report concludes that exposure to environmental tobacco smoke is responsible for approximately 3,000 lung cancer deaths each year in nonsmoking adults in the United States and that it seriously affects the respiratory health of hundreds of thousands of children.

Because of the health implications of exposure to secondhand smoke documented in our recent report, as well as in two comprehensive government reports issued in 1986 by the U.S.



Barbara Braucher

Surgeon General and the National Research Council of the National Academy of Sciences, EPA is today recommending actions to prevent involuntary public exposure to indoor secondhand smoke.

Under the authority of Title IV of the Superfund Amendments and Reauthorization Act, the "Radon Gas and Indoor Air Quality Research Act of 1986", EPA is directed to conduct research and disseminate information on all aspects of indoor air quality. As part of this effort, in 1988 the EPA undertook an assessment of the respiratory health effects of passive smoking. This assessment was intended to: update the earlier reports of the Surgeon General and the National Research Council; classify ETS according to EPA's carcinogen assessment guidelines; assess the respiratory effects of exposure to secondhand smoke in children; and, if possible, quantify the extent of risk.

The report summarizes the findings of the Agency's extensive investigation of the respiratory health risks from exposure to environmental tobacco smoke. It incorporates comments from two open public reviews and recommendations from EPA's Science Advisory Board -- a panel of independent scientific experts in this field. The Science Advisory Board endorsed the conclusions of the report and the methodologies used. In particular, the Board unanimously endorsed the report's classification of ETS as a human lung carcinogen.

Based on the weight of the available scientific evidence, EPA concluded that the widespread exposure to secondhand smoke in the United States presents a serious and substantial public health risk. The major findings included in the report are:

- Secondhand smoke is a human lung carcinogen. It is responsible for approximately 3,000 lung cancer deaths annually in nonsmokers in the United States. ETS is classified as a known

human, or Group A, carcinogen under EPA's carcinogen assessment guidelines. This classification is reserved for those compounds or mixtures that have the strongest evidence of a cause-and-effect relationship in humans. Other agents classified by EPA as Group A carcinogens include radon, asbestos and benzene.

• ETS has subtle but significant other effects on the respiratory health of adult nonsmokers. These include coughing, phlegm production, chest discomfort, and reduced lung function.

• Young children are particularly sensitive to adverse effects from secondhand smoke:

– Infants and young children whose parents smoke are among the most seriously affected by exposure to secondhand smoke, with increased risk of lower respiratory tract infections such as pneumonia and bronchitis. EPA estimates that passive smoking is responsible for between 150,000 and 300,000 lower respiratory tract infections in infants and children under 18 months of age annually, resulting in between 7,500 and 15,000 hospitalizations each year.

– Children who have been exposed to secondhand smoke are also are more likely to have reduced lung function and symptoms of respiratory irritation such as cough, excess phlegm, and wheezing.

– Passive smoking can lead to a buildup of fluid in the middle ear, the most common cause of hospitalization of children for an operation.

– Asthmatic children are especially at risk. EPA estimates that exposure to secondhand smoke increases the number of episodes and the severity of symptoms for between 200,000 and

one million asthmatic children. Passive smoking is a risk factor for the thousands of non-asthmatic children who develop the condition each year.

EPA firmly believes that the scientific evidence is sufficient to warrant actions to protect nonsmokers from involuntary – and I stress the word involuntary – exposure to secondhand smoke.

EPA is conducting a broad public outreach program to communicate the findings of the report. I am pleased to announce today a major step in EPA's public education program about the hazards of exposure to environmental tobacco smoke.

EPA is today releasing a new public information brochure, titled *What You Can Do About Secondhand Smoke*, which recommends actions to prevent involuntary exposure to ETS in indoor environments. The recommendations contained in the brochure are intended to help parents, decisionmakers, and building occupants take steps to protect nonsmokers from exposure to secondhand smoke. The brochure also contains a message for smokers about how they can help protect people around them. I want to emphasize that we are not insensitive to the difficulties that smokers encounter in today's society.

- **EPA recommends that people not smoke in their home or permit others to do so.** If a family member smokes indoors, we recommend increased ventilation in the area where smoking takes place by opening windows or using exhaust fans. We also recommend that smoking should not occur if children are present, particularly infants and toddlers. Baby-sitters and others who work in the home should not be allowed to smoke in the house or near children.

• **EPA recommends that every organization dealing with children – schools, day care facilities, and other places where children spend time – have a smoking policy that effectively protects children from exposure to environmental tobacco smoke.**

• **In the workplace, EPA recommends that every company have a smoking policy that effectively protects nonsmokers from involuntary exposure to tobacco smoke.** Many businesses and organizations already have smoking policies in place, and more and more are instituting them, but these policies vary in their effectiveness.

Simply separating smokers and nonsmokers within the same area, such as a cafeteria, may reduce exposure, but nonsmokers will still be exposed to recirculated smoke and smoke drifting into nonsmoking areas. Prohibiting smoking indoors or limiting smoking to rooms that have been specially designed to prevent smoke from escaping to other areas of the building are the two options that will effectively protect nonsmokers. The costs associated with establishing properly designed smoking rooms vary from building to building, and are likely to be greater than simply eliminating smoking entirely.

Employer-supported smoking cessation programs are an important part of any smoking policy. Approximately 25 percent of Americans smoke. While working in a smoke-free building may encourage some smokers to quit, a smoking policy should provide support for smokers who want to kick the habit.

• **If smoking is permitted in a restaurant or bar, placement of smoking areas should be determined with some knowledge of the ventilation characteristics of the space, to minimize nonsmoker exposure.** More and more individual restaurants and restaurant chains are

prohibiting smoking in their facilities, and cities and counties across the United States are restricting smoking in restaurants within their jurisdictions.

This brochure and the recommendations it includes have been reviewed by the 21 federal agencies of the Interagency Committee on Indoor Air Quality, as well as the American Medical Association and the American Lung Association. We are planning to distribute it as widely as possible.

EPA plans to publish a guide later this year to assist private sector businesses that are interested in establishing workplace smoking policies. The guide will provide information about evaluating existing smoking policies or establishing a policy if one does not exist.

In summary, Mr. Chairman, EPA believes that exposure to environmental tobacco smoke provides sufficient risk to recommend preventing exposure in all indoor environments. The Agency recommends that parents, decisionmakers, and all of us who occupy buildings take appropriate steps to reduce exposure to secondhand smoke.

This concludes my prepared testimony. I would be happy to address any questions you may have.

**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

**July 15, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #M-502**

TO: Legislative Liaison Officer -

AGRIC-CR - Hal Gross (all testimony) - (202)720-7095 - 230
HHS - Frances White - (202)690-7760 - 328
OSTP - Susanne Bachtel - (202)456-7116 - 288

FROM: RONALD K. PETERSON (for) Ronald K. Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Chantale WONG (395-6944)**

SUBJECT: EPA Proposed Testimony on Scientific and Procedural Issues on EPA's report on Passive Smoking

**DEADLINE: 10:00 AM July 19, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
M. Weatherly
B. Clendenin
K. McGinty
A. Fraas
H. Foster

LRM #M-502

**RESPONSE TO LEGISLATIVE REFERRAL MEMORANDUM**

If your response to this request for views is **simple** (e.g., concur/no comment) we prefer that you respond by **faxing** us this response sheet. If the response is **simple** and you prefer to call, please **call the branch-wide line** shown below (NOT the analyst's line) to leave a message with a secretary.

You may **also respond** by (1) calling the analyst/attorney's direct line (you will be connected to voice mail if the analyst does not answer); (2) sending us a memo or letter; or (3) if you are an OASIS user in the Executive Office of the President, sending an E-mail message. Please **include** the LRM number shown above, and the **subject** shown below.

TO: Chantale WONG (395-6944)
Office of Management and Budget
Fax Number: (202) 395-5836

FROM: _____ (Date)

_____ (Name)

_____ (Agency)

_____ (Telephone)

SUBJECT: EPA Proposed Testimony on Scientific and Procedural Issues on EPA's report on Passive Smoking

The following is the response of our agency to your request for views on the above-captioned subject:

_____ Concur

_____ No objection

_____ No comment

_____ See proposed edits on pages _____

_____ Other: _____

_____ FAX RETURN of _____ pages, attached to this response sheet

***STATEMENT OF***
***WILLIAM H. FARLAND***
***DIRECTOR***
***OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT***
***OFFICE OF RESEARCH AND DEVELOPMENT***
***UNITED STATES ENVIRONMENTAL PROTECTION AGENCY***
***BEFORE THE***
***SUBCOMMITTEE ON SPECIALTY CROPS AND NATURAL RESOURCES***
***OF THE***
***COMMITTEE ON AGRICULTURE.***
***U.S. HOUSE OF REPRESENTATIVES***

***July 21, 1993***

Good morning, Mr. Chairman and Members of the Subcommittee. Thank you for the opportunity to appear before you today to discuss scientific and procedural issues regarding EPA's report on passive smoking.

The U.S. Environmental Protection Agency (EPA) has published a major assessment of the respiratory health risks of passive smoking (*Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders; EPA/600/6-90/006F*). The document has been prepared under the authority of Title IV of Superfund (The Radon Gas and Indoor Air Quality Research Act of 1986), which directs EPA to conduct research and disseminate information on all aspects of indoor air quality. The report concludes that exposure to environmental tobacco smoke (ETS) -- commonly known as secondhand smoke -- is responsible for approximately 3,000 lung cancer deaths each year in nonsmoking adults in the U.S. and seriously affects the respiratory health of hundreds of thousands of children. The following testimony summarizes the development of the report, the

Ken Wood

scientific review process, the major findings and the scientific approach. The testimony concludes with responses to tobacco industry criticisms.

Background

In recent years, comparative risk studies performed by EPA and its Science Advisory Board have consistently ranked indoor air pollution among the top five environmental risks to public health. Environmental tobacco smoke is one of the major indoor air pollutants and, given the known health impact of tobacco smoking, there has been concern that nonsmokers may also be at risk of serious health effects.

As part of its efforts to address all types of indoor air pollution, EPA's Indoor Air Division in 1988 requested that EPA's Office of Research and Development (ORD) undertake an assessment of the respiratory health effects of passive smoking. Because of both resource and time limitations, the assessment was limited to respiratory health effects, both cancer and non-cancer, rather than a broader investigation. The report was prepared by ORD's Office of Health and Environmental Assessment (OHEA), and was written with both in-house staff and outside contracting assistance.

As part of the document preparation process several levels of in-house review and sign-off were required before the report was released to the public,

either as a draft or final report. While the ETS Project Manager in OHEA is responsible for the report's overall contents and its conclusions, after his preparation and sign-off, three intermediate level sign-offs were required before submission for official Agency review. The official Agency review and sign-off authority for release of either the external review drafts or the final report was the responsibility of the Assistant Administrator for ORD, a position formerly held by Mr. Erich Bretthauer.

Before being released in draft form for public review, the passive smoking report received many internal reviews, mostly from within ORD. Various parts of it were also reviewed by selected outside experts, both from other Federal agencies and from academic institutions. Revisions incorporated the reviewers' comments wherever possible.

Public and Scientific Reviews

A first external draft of this assessment was released for public review and comment in June 1990. In December 1990, EPA's Science Advisory Board (SAB), a committee of independent outside scientists, conducted a review of the draft report and submitted its comments to the EPA Administrator in April 1991. In its comments, the SAB's Indoor Air Quality/Total Human Exposure Committee concurred with the primary findings of the report, but made a number of recommendations for strengthening it.

Incorporating recommendations from both the public and the SAB, a revised draft was transmitted to the SAB in May 1992 for a second review. Following a July 1992 meeting the SAB panel endorsed the report and its conclusions, including a unanimous endorsement of the classification of environmental tobacco smoke as a Group A (known human) carcinogen.

The EPA also received and reviewed public comments on the second draft, and integrated all appropriate material into the final risk assessment. The final report was released in January 1993, at a joint press conference held by former Administrator Reilly and former Department of Health and Human Services Secretary Sullivan.

## Major Conclusions

Based on the weight of the available scientific evidence, EPA has concluded that the widespread exposure to environmental tobacco smoke in the U.S. presents a serious and substantial public health risk.

**In adults:**

* ETS is a human lung carcinogen, responsible for approximately 3,000 lung cancer deaths annually in U.S. nonsmokers. ETS has been classified as a known human or Group A carcinogen under EPA's carcinogen assessment guidelines. This classification is reserved for those compounds or mixtures which have the strongest data to determine a cause - and - effect relationship, including data from human populations. Only ten other agents, including asbestos and radon, have been classified by EPA as Group A carcinogens, and ETS is the only one for which cancer has been observed at typical non-occupational environmental levels.

* ETS has subtle but significant effects on the respiratory health of nonsmokers, including coughing, phlegm production, chest discomfort, and reduced lung function.

**In children:**

* ETS exposure increases the risk of lower respiratory tract infections such as bronchitis and pneumonia. EPA estimates that between 150,000 and 300,000 of these cases annually in infants and young children up to 18 months of age are attributable to exposure to ETS. Of these, between 7,500 and 15,000 will result in hospitalization.

* ETS exposure increases the prevalence of fluid in the middle ear, a sign of chronic middle ear disease. Fluid in the middle ear is the major cause of hospitalization of young children for an operation in the U.S.

* ETS exposure in children irritates the upper respiratory tract and is associated with a small but significant reduction in lung function.

* ETS exposure increases the frequency of episodes and severity of symptoms in asthmatic children. The report estimates that 400,000 to 1,000,000 asthmatic children have their condition worsened by exposure to environmental tobacco smoke.

* ETS exposure is a risk factor for new cases of asthma in children who have not previously displayed symptoms.

Scientific Approach

EPA's methodology for hazard identification of health effects is based on a total weight-of-evidence approach, which encompasses evidence on exposure, physical and chemical properties, and toxicology, including animal and human studies. Because environmental tobacco smoke (ETS) contains over 4,000 individual components, including over 40 known human and animal carcinogens, examining components individually would be prohibitive. Instead, ETS was

evaluated as a complex mixture. Also, the analysis focused on the respiratory system since that provided the largest database.

The methodologies used for the assessment of lung cancer and noncancer respiratory effects in the EPA report differ somewhat. First, lung cancer is only seen in adults and is thought to represent the effect of long-term exposure. The noncancer respiratory effects examined are most apparent in children, and some of these are irritation effects associated with acute exposures. Second, for lung cancer less is known about mechanisms than is the case for some of the childhood respiratory effects, and this leads to differences in the development of the evidence. Third, because there were 30 studies on lung cancer and ETS, this database was analyzed several different ways before arriving at an overall conclusion. For the various childhood respiratory effects that were examined, there were fewer studies of any one effect and analysis was more limited.

For all effects, studies examine home smoking patterns as a surrogate for ETS exposure. The exposure surrogate in the studies of lung cancer among nonsmokers is spousal smoking patterns. For childhood respiratory effects, parental smoking is the most common surrogate, although recent studies have also shown high correlations between body metabolites of ETS and pneumonia, bronchitis, asthma, and fluid in the middle ear.

There is nearly universal exposure to ETS, which often clouds the distinction between "exposed" and "unexposed" subjects and makes any potential effects difficult to observe. To try to eliminate the effect of some of these misclassified exposures, two methods are used. For hazard identification purposes, trend analysis and analyses comparing high exposure groups with controls are conducted. For population risk estimates, a model which adjusts for background (i.e., non-home) exposures is used.

## Lung Cancer

The conclusion that ETS is a human lung carcinogen is based on the total weight of the available scientific evidence. This evidence includes:

- the strong exposure-response relationships for active smoking for all 4 major lung cancer types, with no evidence of an exposure threshold;

- the chemical similarity of mainstream smoke and ETS, both of which contain over 40 carcinogens;

- supporting evidence from animal bioassays and genotoxicity studies;

- evidence of ETS exposure and uptake by nonsmokers; and

- data from 30 epidemiology studies of ETS and lung cancer from 8 different countries.

The epidemiology studies attempt to estimate the relative risk of lung cancer from actual environmental levels of ETS. Such investigations are inherently difficult for a variety of reasons, not the least of which is the fact that virtually everyone is exposed to some level of ETS from a variety of different sources. Therefore, the studies try to compare risks in people with greater versus lesser exposures. All 30 epidemiology studies provide data on female never-smokers classified as "exposed" or "unexposed" on the basis of whether or not their husbands smoke. Although spousal smoking status is the best single measure of ETS exposure, it is a crude measure, and the studies are prone to exposure misclassification which decreases their ability to detect an increased risk if one exists. Furthermore, many of the studies are of small size and have a low statistical power to detect an increased risk.

In the EPA report, the epidemiologic data are analyzed a variety of different ways, and each analysis demonstrates an association between ETS and lung cancer. First, the studies were analyzed individually. Using the crude "exposed" versus "unexposed" measure, 24 of the 30 studies found an increased risk of lung

cancer in the exposed group; nine of these were statistically significant. This proportion (9/30) of significant studies is highly unlikely to have occurred by chance (probability < one in 10 thousand). In addition, ALL 17 studies with data categorized by exposure level (i.e., amount of spousal smoking) found an increased risk of lung cancer in the highest exposure group, and 9 of the 17 were statistically significant (probability < one in 10 million), despite most having a small sample size. Examining only the highest exposure group helps to minimize exposure misclassification in the "exposed" group, since women whose spouses smoke a lot are more likely to be exposed to substantial amounts of ETS. Finally, 10 of the 14 studies with sufficient data for a trend test showed a statistically significant exposure-response relationship (probability < one in 10 billion), i.e., increasing risk of lung cancer with increasing ETS exposure.

The study data were also combined by country, using a statistical procedure called "meta-analysis" to pool the data. Combining datasets increases the ability to detect an effect, if one is present, and provides an objective means of including all studies, both with positive and non-positive results, in the analysis. This combined analysis also showed increased risks, consistent with the analyses of the individual studies.

A number of potential modifying factors, such as diet and occupation, were also examined, and it was determined that they could not account for the observed

increased risks. Furthermore, the consistency of the results across numerous independent studies from different countries argues against the existence of any one factor other than exposure to ETS as an explanation for the observed results.

In summary, the total weight of the evidence is overwhelmingly supportive of a conclusion that ETS causes lung cancer in humans, and this conclusion was **unanimously** endorsed by EPA's Science Advisory Board.

The population risk estimate of approximately 3,000 lung cancer deaths per year in U.S. nonsmokers is based on the pooled relative risk estimate for the 11 U.S. epidemiology studies on ETS and lung cancer, with an adjustment for other sources of ETS exposure in addition to spousal smoking. The adjustment uses biological markers of ETS exposure to assess relative ETS exposure between nonsmokers with and without spousal exposure. The estimate of 3,000 is consistent with estimates generated in an alternative analysis based on the Fontham et al. study. This NCI-funded multicenter study was the largest U.S. case-control study and is considered representative of the U.S. population. It was designed specifically to examine ETS and lung cancer and pays special attention to eliminating smoker misclassification bias. Furthermore, it is the only study which provided data on both relative risk and relative exposure.

The overall estimate of 3,000 lung cancer deaths is a composite of estimates of 1,500 for female never-smokers, 500 for male never-smokers, and 1,000 for long-term former smokers of both sexes. (These estimated 1,000 ETS-attributable lung cancer deaths in long-term former smokers are in excess of any lung cancer deaths resulting from former smoking.) To extend the analyses of female never-smokers to male never-smokers and to long-term former smokers, the estimated relative risks were converted to excess risks, and these excess risks were assumed to apply to the male never-smokers and the former smokers. This assumption may underestimate the risk in male never-smokers and long-term former smokers, since, for example, males are exposed to greater levels of background ETS. An alternate breakdown of the estimated 3,000 lung cancer deaths attributes 800 deaths to "spousal" (or home) exposure and 2,200 deaths to other sources of exposure, such as work and public places. The EPA has relatively high confidence in these estimates, especially those for female never-smokers, since they are based on increased risks observed in humans exposed to ETS at actual environmental levels.

The epidemiology data on workplace exposure were not included in the report for several reasons. The database is much smaller than the database for females and spousal smoking, with only 10 of the 30 studies reporting data for workplace exposures. Furthermore, workplace exposures are much more variable over time, with study subjects and their coworkers typically changing jobs several

times during a lifetime. In addition, the presence of other hazardous chemicals in some workplaces can make interpretation of the results more difficult. The data on female never-smokers and spousal smoking provide the largest database for the purposes of analyzing comparable data, and spousal smoking is a major source of ETS exposure that is relatively stable over time. The inference can be made that if exposure to ETS at home can cause lung cancer, exposure to comparable levels from other sources can also increase the risk. The EPA report documents exposure studies showing that ETS levels in workplaces where smoking occurs are comparable to levels in homes where smoking occurs.

Noncancer Respiratory Disorders

The weight of evidence for the noncancer respiratory disorders includes mechanistic information on tobacco smoke's effects on the lung, as well as data from over 100 epidemiological studies. Both maternal smoking during pregnancy and postnatal exposure to ETS can predispose a child to a variety of respiratory effects that can themselves have long-term consequences. Maternal smoking during pregnancy can affect the developing lung, causing permanent changes in lung structure and function, e.g. decreased lung elasticity. Postnatal exposures to ETS may similarly affect lung development, as well as increase bronchial responsiveness and enhance the process of allergic sensitization of the lung. These changes may predispose children to acute lower respiratory tract infections

early in life, and to asthma, lower levels of lung function, and chronic airflow limitation later in life.

Epidemiology studies have consistently demonstrated increased risks of lower respiratory tract infections in young children whose parents smoke. In addition, epidemiology studies of children show that ETS exposure is causally associated with increased prevalence of fluid in the middle ear, symptoms of upper respiratory tract irritation (e.g., coughing and wheezing), and reductions in lung function. ETS exposure is also causally associated with additional episodes and increased severity of symptoms in children with asthma. Furthermore, the data are suggestive that ETS exposure can cause new cases of asthma in children who have not previously displayed symptoms; however, there were too few studies to make a conclusive determination. No conclusions could be drawn about upper respiratory tract infections (i.e., colds and sore throats) or middle ear infections in children. The epidemiology studies of noncancer respiratory disorders in nonsmoking adults generally relied on spousal smoking as a surrogate for ETS exposure, and also demonstrated significant effects, including coughing, phlegm production, chest discomfort, and reduced lung function.

Because of the widespread exposure to ETS and the high incidence rates for respiratory illnesses and disorders, even small increases in risk can result in substantial numbers of cases being attributable to ETS. For example, acute lower

respiratory tract infections are one of the leading causes of morbidity and mortality during infancy and childhood, and the EPA report estimates that ETS exposure is responsible for 150,000 to 300,000 cases in children up to 18 months, resulting in 7,500 to 15,000 hospitalizations, each year. Fluid in the middle ear is another common affliction in young children and is the most common reason for hospitalization of young children for an operation. As a final example of the public health impacts of ETS exposure, the EPA estimates that as many as one million asthmatic children have their condition worsened by exposure to ETS.

Other Assessments of ETS and Respiratory Disease

The EPA's conclusions on the respiratory effects of passive smoking strengthen and confirm those of earlier assessments by the U.S. Surgeon General (1986), and the National Research Council of the National Academy of Sciences (1986). The World Health Organization has also concluded that ETS causes excess risk of lung cancer (1986) and other respiratory disorders (1992). The National Institute of Occupational Safety and Health (1991) concluded that occupational exposure to ETS causes increased risks of lung cancer and probably heart disease. The position of the National Cancer Institute (1993) is that ETS is a proven cause of lung cancer in nonsmoking adults and is associated with an increased risk of coronary heart disease.

New Studies on ETS and Respiratory Effects

Since the cutoff date for literature inclusion in the EPA report, several new studies have been published which provide additional evidence of respiratory effects from ETS exposure. Six of these are particularly relevant, one each on sudden infant death syndrome (SIDS) and asthma, and four on lung cancer.

In reviewing the evidence on ETS and SIDS, the EPA report concluded that there is strong evidence that infants whose mothers smoke are at an increased risk of dying from SIDS. Available studies did not allow us to differentiate whether and to what extent this increase is related to *in utero* versus postnatal exposure to tobacco products. However, a recent study by Schoendorf and Kiely in Pediatrics found a two-fold risk of SIDS for infants whose mothers suspended smoking during pregnancy but resumed after giving birth, and a three-fold risk among infants whose mothers smoked both during and after pregnancy.

A new study on ETS and asthma by Chilmonczyk and coworkers in The New England Journal of Medicine confirmed EPA's conclusions with a finding that among children with asthma, acute exacerbations increased with ETS exposure. Asthmatic children reported to be exposed to the mother's and other persons' smoke demonstrated decreased pulmonary function and had an 80% increase in the number of acute episodes of asthma compared to children exposed only to

background levels of ETS. Reported exposures, asthma exacerbation, and decreased pulmonary function also correlated with urinary cotinine measurements.

Three recent studies on ETS exposure and lung cancer in non-smoking women add to the database of the 30 studies analyzed in the EPA report. Two of these, Stockwell et al. (Journal of the National Cancer Institute) and Brownson et al. (American Journal of Public Health), are large U.S. case-control studies which find significantly increased risks among nonsmoking women in the highest category of ETS exposure, based on the amount their husbands smoked. Similar results are reported in the very recent study of nonsmoking Chinese women by Liu et al. (American Journal of Epidemiology) who also found a statistically significant increase in risk in the most exposed group, based on husband's smoking. In addition, Stockwell et al. found significantly increased risks for high levels of household exposure as children.

Finally, an autopsy study by Trichopoulos et al. (Journal of the American Medical Association) found a significant increase in "epithelial, possibly precancerous, lesions" in the lungs of nonsmoking Greek women who were married to smokers and who had died of causes other than respiratory diseases. This finding, using a different methodology from the reports cited above, provides additional support to the weight of evidence linking passive smoking to lung cancer.

Comparison of Risk from ETS with those from other Environmental Hazards

I believe we should put the risks associated with ETS into perspective. The EPA estimates that about 20 to 30 percent of all lung cancers caused by factors other than smoking are attributable to environmental tobacco smoke. Another way of expressing this is that the increased risk of dying from lung cancer is about 1-in-1,000 from all ETS exposures outside the home. Exposure to ETS varies, but higher exposures are associated with higher risks. For example, people whose spouses smoke in the home face an average increased risk of 2-in-1,000.

Risks in this range are considered high. For comparison, EPA generally sets its standards or regulations so that increased risks are below 1-in-10,000 to 1-in-1 million. In other words, the increased lung cancer risks associated with exposure to environmental tobacco smoke are at least an order of magnitude greater than the cancer risks for virtually any other chemical or agent that EPA regulates.

The additional risks on childhood respiratory health make an even more compelling case for appropriate actions to control involuntary exposures.

## RESPONSES TO CRITICISMS RAISED BY THE TOBACCO INDUSTRY

**CRITICISM:** EPA's lung cancer conclusion depends on a "meta-analysis", a highly speculative statistical procedure.

**RESPONSE:** The conclusion that ETS is a human lung carcinogen, which was unanimously endorsed by the EPA's Science Advisory Board (SAB), was based on the total weight of the evidence and does not rely on the meta-analysis. The meta-analysis was only one of several analyses used to evaluate the ETS epidemiology data. All of the analyses found evidence of an association between ETS and lung cancer. Furthermore, the meta-analysis was used as an objective tool, since it provides a means of including both positive and non-positive study results into the analysis. Finally, the meta-analysis procedure was specifically approved by the SAB as appropriate for analyzing the ETS epidemiolgy database.

**CRITICISM:** EPA loosened its judgement criteria specifically for this risk assessment from 95% to 90% confidence intervals. Without this loosening, the results would not be statistically significant.

**RESPONSE:** The 90% confidence interval is consistent with the one-tailed significance test which was used in both draft reports as well as in the final report. We believe that a 90% certainty level is fully appropriate for this assessment,

given the known positive association between active smoking and lung cancer, with dose-response trends down to very low levels. Furthermore, the conclusions are not dependent on the 90% confidence interval criterion. Several of the analyses conducted demonstrate with much greater than even 95% certainty that the full set of results did not occur by chance. This methodology was also endorsed by EPA's Science Advisory Board.

**CRITICISM:** 80% of the epidemiology studies of ETS and lung cancer showed no increased risk.

**RESPONSE:** Even using the weakest exposure surrogate measure, spousal "ever" vs. "never" smoking, 24 of the 30 studies did find an increased risk, and 9 of these were statistically significant. This proportion of statistically significant positive studies is highly unlikely to occur by chance (probability < 1 in 10,000). In addition, many of the studies were small and had a low statistical power to detect an effect at environmental exposure levels, especially since the study results are based on whether or not the spouse smokes, which is a crude measure of ETS exposure. A better indicator of exposure is provided by the studies that collected data on exposure level, i.e., on the amount the spouse smokes. All 17 studies with exposure level data found an increased risk in the highest exposure group; 9 of these were statistically significant, despite most having small sample size. This proportion of statistically significant studies is extremely unlikely to

occur by chance (probability < 1 in 10 million). Even more revealing, 10 out of the 14 studies with sufficient data for a trend test show statistically significant exposure-response relationships; the probability of this occurring by chance is less than one in ten billion.

**CRITICISM:** EPA excluded the largest U.S. case-control study, the NCI-funded study by Brownson, which showed no increased risk.

**RESPONSE:** EPA excluded the Brownson study (Am J Public Health, November, 1992), as well as four other recent positive studies relating to ETS and lung cancer, because they were published after the cut-off date for literature inclusion. While the overall risk is not increased in the Brownson study, the risk in the highest exposure group is statistically significantly increased. Brownson's own conclusions are stated, "Ours and other recent studies suggest a small but consistent increased risk of lung cancer from passive smoking." Inclusion of these recent studies would, if anything, have strengthened the conclusions of the EPA report.

**CRITICISM:** EPA excluded data on workplace exposure, which show no excess risk. The EPA also excluded data on males.

**RESPONSE:** The EPA assessment focused on the data for female never-smokers and spousal smoking because spousal smoking represents the best single indicator of ETS exposure, and because these data provide, by far, the largest database for statistical analysis. The data both on males and on workplace exposures are far fewer. In addition, workplace exposures tend to be much less stable over the years, and some workplaces are sources of exposure to other various hazardous chemicals, which could make the results more difficult to interpret.

**CRITICISM:** Other studies show that diet can affect lung cancer risk. EPA failed to consider diet in its analysis.

**RESPONSE:** The EPA did consider diet and other potential modifying factors, and determined that these cannot account for the observed increased risks. Furthermore, the consistency of the results and exposure-response trends across numerous independent studies from 8 different countries argues against the existence of any one factor other than exposure to ETS as an explanation for the results.

## LEAD-BASED PAINT

**QUESTION:** Has ORD done research on short-term, cost effective technologies for lead-based paint removal and in-place management techniques?

**ANSWER:** ORD has initiated work during the past year on the evaluation and/or future improvement of innovative lead-based paint hazard abatement technologies. ORD is evaluating the potential for use of $CO_2$ (dry ice) pellet-stripping techniques for removal of lead-based paint in residential structures, schools, etc. Other potentially more effective and cheaper innovative paint removal methods than currently available are also to be evaluated. In addition innovative approached for disposal of paint hazard abatement debris (e.g., recycling of such debris through smelters to recover the lead and leaving essentially lead-free residues for disposal) are being evaluated. ORD is doing research on in-place management techniques as it relates to evaluation of the effectiveness of periodic cleaning of dust from household furnishings (carpets, stuffed chairs/couches, drapes) in lead-based paint-containing domiciles. Continuation of work of this type and to improve the cost-effectiveness of leaded dust removal methods is planned for FY 94-95.

## LEAD EXPOSURE

**QUESTION:** Has ORD done any research on lead exposure and types of carpeting used in a home?

**ANSWER:** Some research indicates that upholstered furniture, and possibly carpeting, can remain a source of lead exposure after a lead-paint problem in a housing unit has been abated. However, ORD has not done any research on lead exposure from carpeting.

## ENVIRONMENTAL TECHNOLOGY INITIATIVE

**QUESTION:** In your testimony you mention that "EPA has an important role in helping to create incentives for innovation..." Would you give examples of how EPA is doing this or plans to do this?

**ANSWER:** EPA's Innovative Technology Council is preparing the strategy for the Environmental Technology Initiative, which will include the use of incentives to stimulate the implementation of innovative technologies. On a related issue, EPA is studying the manner in which science impacts the development of regulations in order to better understand the link between regulations and incentives. The information from the studies can assist EPA in refining criteria that can be used for evaluating the merits of specific incentive-based policies.

The Agency has been exploring numerous options that use economic incentives for environmental protection instead of command-and-control regulations and enforcement. Some of these alternatives are spelled out in the 1991 EPA report "Economic Incentives: Options for Environmental Protection". EPA's role is very prominent because the environmental technology market is created and shaped by EPA's (and State) regulatory and enforcement programs. EPA is in the best position from a Federal government perspective to know the technology needs, and to adopt rules and programs to meet those needs. For examples, marketable emissions credits or similar economic instruments can be a major incentive to encourage use of innovative technologies.

To be adopted, innovative technologies must gain regulatory acceptance by permit writers, on-scene coordinators, and rule developers. EPA involvement in development and evaluation of the technologies lends credibility to the innovations and enhances a new technology's ultimate acceptability. Additionally, EPA is viewed as an objective, honest broker whose reputation can enhance the worldwide acceptance of new technologies. The substantial experience of EPA's scientists and engineers, and the Agency's existing laboratories and testing facilities, can play an important role in the success of the Environmental Technology program.

## LEAD IN AIR

**QUESTION:** Is there any evidence of reduced adverse health effects as a result of lower lead levels in air due to the elimination of lead in gasoline? How have specific maladies been reduced, especially among children?

**ANSWER:** The evidence demonstrates that as gasoline lead levels decline, both air lead levels and blood lead levels decline. As blood lead levels decline, the number and severity of health effects induced by lead also decline.

The level of lead in blood is the most widely accepted measure of lead exposure. Because blood lead integrates across all routes of exposure, such as inhalation and ingestion, nearly all studies of health effects of lead in humans measure the effects in relation to blood lead levels-- not directly in relation to concentrations of lead in environmental media. The evidence of the correlation between blood levels and health effects is extensive. In recent years, numerous epidemiological studies of adult and child populations have provided further evidence of the quantitative relationship between blood lead levels and health endpoints, such as blood pressure in adults and neurobehavioral development in children. Further evidence for relationships between blood lead levels and health effects shows a decline in such maladies as colic, other overt gastrointestinal symptoms, Vitamin D Metabolism interference, IQ deficits, etc., which impact children.

The association between blood lead level decreases in the U.S. and reduced lead in gasoline has been most clearly documented by analyses of data from the National Health and Nutrition Examination Survey (NHANES) II sampling of blood lead levels in the U.S. consumption for the same period. Parallel decreases were observed in both gasoline and blood lead during the late 1970s, especially after 1978, when major phasedown reductions in gasoline began to take effect. Although more recent blood lead level data from NHANES III are not yet available, various statistical estimates and other data suggest that the average blood lead level in the United States has continued to decline. Even though reductions in other sources of lead exposure, such as solder-seam canned food, have contributed to the currently lower average blood lead level, there is little doubt that the phasedown in gasoline lead, and consequently, reduced air lead concentrations, are responsible for the major part of this decline in blood lead since the mid-1970s.

## SITE Program

**QUESTION:** In reference to the SITE Program located in Wayne, NJ: What new technologies are being applied or intended to be applied to the cleanup of the thorium there or at other sites and when can the people expect that cleanup will commence and be complete.

**ANSWER:** The Wayne, NJ site is on the National Priority List (NPL) and is not one of the Office of Research and Development's (ORD's) Superfund Innovative Technology Evaluation (SITE) locations. The Superfund Program office indicated that the scheduled milestone for the Wayne Interim Storage Site are to have the cleanup remedy selected (Record of Decision) by the end of this fiscal year, remedial design completed in the fourth quarter of FY 1995, and remedial action beginning in the first quarter of FY 1996 and continuing through the second quarter of FY 1999. This site is currently being studied to determine the remedy which will be used to most effectively clean up the contamination. Waste Screening/Volume Reduction, a new cleanup technique currently being tested, is under consideration for this site and would entail sifting contaminated soil to extract radionuclides, which could then be transported off-site, leaving the clean material in place.

CAM FILE

**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

**URGENT**

**July 28, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #M-559**

**TO: Legislative Liaison Officer -**

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**FROM:** RONALD K. PETERSON (for)
Assistant Director for Legislative Reference

Ronald K. Peterson

**OMB CONTACT:** Chantale WONG (395-6944)

**SUBJECT:** EPA Proposed Testimony on EPA's Current Pollution Prevention and Global Change Activities

OEP concurs 7/29

**DEADLINE:** 3:00 PM July 29, 1993

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

CC:
C. Wolz
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FAX 16pgs

Testimony of

ROBERT SUSSMAN

DEPUTY ADMINISTRATOR,
U.S. ENVIRONMENTAL PROTECTION AGENCY

Before the

COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTE ON HEALTH AND THE ENVIRONMENT
U.S. HOUSE OF REPRESENTATIVES

August 2, 1993

Good Morning. I am Bob Sussman, Deputy Administrator of the U.S. Environmental Protection Agency (EPA). Thank you for inviting me here today to discuss EPA's current pollution prevention and global climate change activities.

## I. Environmental Status

The 1990 Amendments to the Clean Air Act have given EPA the authority and explicit direction to prevent pollution and reduce greenhouse gas emissions. Our efforts in reducing air pollution help reduce a number of negative impacts ranging from cancer and birth defects in people to acid deposition in our lakes and streams. We are tackling the problems of smog in large cities and the increases in ultra-violet radiation due to ozone depletion. Fulfilling our mandates under the Clean Air Act, EPA has also begun to take steps to reduce emissions of greenhouse gases - a problem which could increase global mean temperature by 2°F by the year 2025 and 5°F before the end of the next century. As with local air pollution, the effects of



Barbara Bannerman

global warming could be severe and have the potential to alter global climate, rainfall, other weather patterns, and biochemical cycles, causing potentially devastating effects on human societies and ecological systems. I would like to highlight our pollution prevention activities and their impacts on air pollution emissions, including emissions contributing to global climate change. Although many of our activities are conducted under the authority of the Clean Air Act, they will also contribute to the National Action Plan to reduce greenhouse gas emissions now under development.

## II. Air Pollution and Global Warming

Preventing pollution and reducing greenhouse gas emissions go hand in hand, and the benefits of taking actions today to address both of these issues will accomplish the goals of cleaner air and a decreased threat of global warming. In many cases, these environmental goals can be achieved while simultaneously strengthening and increasing the efficiency of our economy. For example, a corporation which prevents air pollution by upgrading to energy efficient lighting has made an investment which is not just profitable, but which yields a rate of return anywhere from 20-30%. The corporation creates jobs by contributing to the demand for lighting installation and services, while freeing up its own capital that was spent on energy bills to be invested in productivity and competitiveness. As international competitiveness becomes more fierce, a much more efficient and productive private sector will ensure the United States' leadership in the world economy.

In addition, the public sector's complementary effort to reduce air pollution and

greenhouse gas emissions may save millions in taxpayer dollars and help reduce the deficit. A recent Executive Order requires that only energy efficient Energy Star Computers be purchased by the federal government. This action and others like it show that the United States Government can lead by example. In doing so, we will accelerate energy efficiency improvements and reductions of greenhouse gases and other pollutants by speeding efficient technologies to the market and reducing the market price for these products.

There are a number of opportunities which are both a win for the economy and a win for the environment, and the new National Action Plan will highlight some of the most cost-effective actions the government can take to spur the process of environmental and economic improvement. Current and future EPA activities mandated by the Clean Air Act will be a key part in the development of both a consistent framework and a full package of actions we need to take to reduce greenhouse gas emissions. EPA's authority to inventory greenhouse gases, for example, has played a critical role in developing baseline estimates for the Administration's plan. The knowledge and tools currently exist to achieve the Administration's goals, and our current and future efforts will build upon and expand our capability, know-how, and motivation to achieve environmental and economic success.

## III. Current and Planned Activities

### A. VOLUNTARY PROGRAMS

#### Green Programs

EPA emphasizes the importance of voluntary, non-regulatory programs which reduce

emissions of greenhouse gases. The "Green Programs" are private/public partnerships with businesses and organizations to help reduce pollution and greenhouse gas emissions, including carbon dioxide and methane. The voluntary Green Programs are an innovative, new approach to environmental protection. Organizations sign an agreement, or a Memorandum of Understanding, with the EPA and commit to making efficiency upgrades wherever it is profitable. Assisting organizations in making profitable energy efficiency and methane reduction investments helps save millions of dollars, creates thousands of jobs, and significantly reduces air pollution and greenhouse gas emissions. The Green Programs are an example of a new approach for government. Instead of mandating a general, often inefficient solution, we can work cooperatively with the private sector to arrive at economically attractive ways to protect the environment while improving productivity and competitiveness.

By increasing the energy efficiency of our building stock, for example, utilities burn less fuel to generate electricity and therefore emit less air pollutants such as $NO_x$, $SO_2$, and particulate matter, and correspondingly reduce emissions of the greenhouse gas $CO_2$.

EPA's flagship program, *Green Lights*, currently has over 1000 participants - over 4% of all U.S. commercial and industrial floor space. Green Lights partners upgrade their lighting systems wherever it is profitable, which typically results in an internal rate of return of 20-40%. Participants receive not only technical and analytical support tools, such as decision support computer software and product information, but also an organizational and motivational framework to mobilize their projects. The Green Lights Program has recently been placing much effort in implementation, and has found that many organizations need the motivational and technical support to first initiate and finally complete upgrades which maximize energy savings

and profits.

The *Energy Star Buildings* Program builds on the success of Green Lights to consider not only lighting, but entire building energy systems. Charter members in the program will be announced this fall. Participants will first take steps to improve on the building envelope (i.e. roofing insulation, window film) and then proceed with profitable energy efficiency improvements in their heating, ventilation, and air conditioning (HVAC) systems and chilling systems. We expect that the Energy Star Buildings program will help participants reduce their building energy use by up to 55%, and reduce emissions by 2 million metric tons of carbon (MMTC) by the year 2000.

The flagship product identification *Energy Star* Computers Program has signed commitments from over 65% of all computer manufacturers and 90% of the U.S. laser printer manufacturers to produce energy saving computer equipment. Consumers will be able recognize the energy-saving equipment by the Energy Star logo, which was officially introduced this June. Vice President Al Gore and EPA announced the kick-off of the logo and highlighted over 20 manufacturers who now have Energy Star models available to the mass market. The computer industry's response to this new type of voluntary program has been extremely positive and productive. President Clinton, in his Earth Day speech, has committed the Federal Government to purchasing only Energy Star Computers. The Energy Star Computers programs will make significant energy efficiency improvements in computer systems and other office equipment, and is expected to reduce carbon emissions by 6 MMTC by the year 2000.

§603 of the Clean Air Act Amendments (CAAA) required EPA to submit five reports

on methane emissions, an important greenhouse gas, to Congress. *Anthropogenic Emissions in the United States: Estimates for 1990* was published in June 1993. It identifies coalbed methane, natural gas transmission and distribution, animal feedlots, landfills and ruminants as important controllable sources of methane. Work is underway to publish the other reports, including a study of measures to limit growth in methane concentrations to be entitled *Options for Reducing Methane Emissions in the United States*.

The control measures we have identified include a number of profitable voluntary programs. *The Natural Gas Star* program enlists gas transmission and distribution companies to install cutting edge technology to reduce emissions from their operations by up to one-third. Seventeen companies representing 40% of the U.S. Natural Gas transmission and distribution industry have enrolled in this voluntary program. At current activity levels, we expect this program to prevent the release of 1 MMTC by the year 2000.

A coalbed methane outreach program will assist the profitable capture of methane. Captured methane from coal beds during and in advance of mining can be used as a fuel source, partially offsetting power costs for ventilation and other mining operations. In addition to increasing mine safety, this effort will allow mining operations to offset power costs for ventilation and other activities, thus reducing operating costs, while preventing the release of up to 1.2 MMT of carbon equivalent. We expect to implement recovery projects at 3-5 gassy mines in the Appalachian Region this year.

The voluntary *AgStar* initiative will work with swine and dairy farmers to prevent water and air pollution from feedlot waste stored in lagoons. Collected methane from these facilities

can be used for on-site power generation in many farming operations, partially off-setting total farm energy costs.

Mandatory Reporting Under Section 821

The Global Climate Protection Act of 1987 originally gave EPA the authority to inventory greenhouse gas emissions, and this authority has been strengthened by a number of provisions in the Clean Air Act Amendments. For example, Section 821 of the CAAA requires mandatory reporting of $CO_2$ emissions from sources regulated under Title V. This and other authorities complement EPA efforts to work with DOE to leverage Section 1605 of the Energy Policy Act into an effective greenhouse gas reduction program. The contemplated EPA/DOE *Recognition Program* will build upon the mandates in Section 1605 requiring DOE to establish a process by which firms can voluntarily report greenhouse gas emissions and reductions achieved through various actions. This program will entail setting up an accounting method, establishing goals, and providing outreach and technical services to participating organizations.

New Technology

Under Title IX of the CAAA, EPA continues to conduct research to evaluate and demonstrate technologies which prevent pollution. The agency is working on the development of an inexpensive controller chip to optimize motor performance under varying loads. This chip will use a form of artificial intelligence called "fuzzy logic" to optimize power consumption, and the estimated payback for installing this technology is less than one year. The widespread use

of this new chip will improve the efficiency of motors and have a large impact on electric power needs, helping to prevent pollution and reduce greenhouse gas emissions.

## B. REGULATORY PROGRAMS

Stationary Source Controls Under the Clean Air Act

The Clean Air Act contains a number of specific requirements for the control of air toxics, precursors of ground-level ozone, sulfur dioxide, particulate matter (PM-10) and other pollutants. The Act specifies that many of these emissions controls be "reasonably available" or "best demonstrated", and often results in rules based exclusively on "end-of-pipe" technology. EPA believes, however, that the statutory language may provide latitude for a control approach not based on end-of-pipe technology. In many instances, EPA believes that these key terms may be defined or interpreted in a way that incorporates pollution prevention strategies. Thus, in a variety of instances, EPA has been able to encourage pollution prevention solutions to stationary source air pollution problems and in many cases these solutions also tend to reduce global warming effects.

To understand the impact of EPA's stationary source regulations on greenhouse gases, it is important to understand two important points. First, any action that reduces the need for fuel has a direct and beneficial effect on global warming. This could involve process or product changes (i.e. pollution prevention approaches) to reduce emissions, instead of requiring control technologies which burn fuel, such as incinerators or steam strippers. Even reducing the fuel needed to operate a control device has beneficial pollution prevention effects.

Fuel requirements of a pollution control device are generally a direct function of the size of the exhaust stream being treated. For that reason, any activity that reduces the volume of exhaust air, also reduces both the requisite size, cost, and fuel requirements of the abatement device and the resulting $CO_2$ emissions. For example, EPA developed the concept of "permanent total enclosures" for containing VOC and hazardous air emissions from a variety of processes. More efficient than conventional hooding exhaust systems, these enclosures require somewhat less exhaust air than traditional exhaust systems, thereby reducing fuel requirements of the control device up to as much as 25%. EPA introduced this concept in its 1988 new source performance standard in the production of magnetic tape.

Second, a major source of $CO_2$ are emissions of volatile organic compounds (VOCs), which are key components of ground level ozone. Ground-level ozone (smog) is an interim product of the complex atmospheric chemistry that is associated with the transformation of VOCs into $CO_2$. All VOCs that remain airborne ultimately oxidize into $CO_2$. As a result, any regulatory scheme that limits emissions of VOCs without the need for a control device has the dual benefit of helping to reduce both ground-level ozone and $CO_2$.

EPA has proposed or issued a number of regulations and guidance documents to control ozone-forming VOCs which have additional global warming benefits. Two examples are rules that prevent evaporation of fuels, such as those pertaining to storage tanks and equipment leaks at chemical and petroleum plants, and proposed rules to limit the release of non-methane organic chemicals from landfills. In the latter case, an additional benefit includes the direct prevention of methane emissions which are about 20 times more potent than an equivalent amount of $CO_2$, in causing global warming. Landfill owners will have an opportunity to profitably use the

efforts of the President's Federal Fleet Conversion Task Force to enhance the use of clean alternate fuels in federal government fleets. EPA also supports *Green Fleets*, a fuel efficiency pilot program for state fleets that evaluates the impact of public sector procurement of energy efficient and alternatively fueled vehicles on air quality and greenhouse gas emissions.

As this Administration moves forward with the revitalization of our transportation infrastructure, EPA and DOT are working together to reconcile improved mobility with clean air. EPA's forthcoming rule on transportation conformity will ensure that local decisions about future transportation investments in many American cities will be consistent with the need to meet and maintain air quality standards. Consistent with the Administration's efforts to also improve vehicle mobility by revitalizing our transportation infrastructure, EPA's forthcoming Clean Air Act rule on transportation conformity will ensure that local decisions under the Intermodal Surface Transportation Efficiency Act about future transportation investments in many American cities will be consistent with the need to meet and maintain air quality standards. EPA continues to work with the Department of Transportation to develop and provide technical information and support to areas implementing innovative transportation measures that reduce transportation fuel consumption and thus $CO_2$ emissions, as they reduce criteria emissions.

State Initiatives

Under the requirements of the Clean Air Act, states and localities have initiated a variety of innovative programs and projects designed to reduce energy use as well as criteria pollutants and greenhouse gases. Motivation to take action has come from the need to improve environmental quality, increase energy security, and create jobs for the local workforce.

methane for energy and offset some of the costs of complying with the rule.

An important example of a rule based on technological control which has led to direct manufacturing improvements and more productive use of resources is EPA's program to control emissions from the coatings industry. Since 1977, the Agency has issued a number of New Source Performance Standards (NSPS) and Control Technique Guidelines (CTGs) to reduce emissions from different industries that use coatings. Because the affected industries did not always want to invest in the sometimes costly abatement equipment to comply with the standards, they worked with the major coating manufacturers to develop coatings with inherently lower VOC content. In certain cases, companies which chose to make the transition from liquid to powder coatings achieved over 90% reductions in emissions of VOCs and $CO_2$. The coating industries for which EPA issued New Source Performance Standards describing these process changes or pollution prevention options include metal furniture, automobile and light duty trucks, publication rotogravure printing, pressure sensitive tapes and labels, large appliances, metal coil, beverage cans, flexible vinyl and urethane, and plastic parts for business machines.

Under Title VI of the Clean Air Act Amendments, ozone depleting CFCs and HCFCs are phased out. EPA is adopting a safe alternatives policy to include the analysis of global warming potential of possible substitute substances. Approved substitutes reduce the overall risks to human health and the environment. In this way, future increases in release of CFC and HCFC substitutes that have high global warming potentials may be avoided.

Mobile Sources

The transportation sector accounts for a substantial portion of emissions that contribute

to ground-level pollution and climate change. Transportation accounts for 30 - 50% of all ozone-forming emissions and approximately one third of the greenhouse gases emitted nationwide. Emission trends from this sector are profoundly affected by the amount Americans choose to drive. In the past, increasingly stringent standards for emissions of hydrocarbons, nitrogen oxides, and carbon monoxide from motor vehicles and motor vehicle fuels have been able to overcome the impact of increasing travel on levels of health-threatening criteria air pollutants. However, over the past ten years, average fuel economy has remained constant but vehicle miles traveled has steadily increased, resulting in an increase in fuel consumption and carbon dioxide emissions.

In many instances, measures taken to prevent and reduce hydrocarbon emissions from motor vehicles complement the goal of reducing fuel consumption and overall carbon emissions. The enhanced Inspection and Maintenance program required under §182 will be implemented in over 100 ozone and carbon monoxide nonattainment areas beginning in 1995. States will detect and require repair of vehicle malfunctions that cause excessive emissions of hydrocarbons, nitrogen oxides, and carbon monoxide. On average, these repairs will also improve fuel economy, saving the Nation 15 million barrels of oil per year and reducing carbon emissions from the transportation sector by 1.6 MMT per year.

The Clean Air Act's *Clean Fueled Fleets* program requires public and private fleets in 22 cities across the country to purchase vehicles which meet very stringent emission standards beginning in 1998. EPA has established incentives for fleets to go beyond minimum mandates and to invest in vehicles using alternative fuels, including natural gas and renewable fuels. Along with the Department of Energy and other federal agencies, EPA is participating in the

Under Title IX of the CAAA, EPA has provided technical assistance to States and localities to develop the necessary institutional capacity to deal with mitigation and adaptation activities associated with greenhouse gas emissions. EPA encourages states to conduct an inventory of greenhouse gas emissions and to develop a State Action Plan.

Another example of interaction with the state and local level is *Cool Communities*, a pilot program in seven U.S. cities, which involves the strategic planting of trees and lightening of surfaces to reduce the internal heat load in buildings. Buildings which are now cooler require less air conditioning energy, helping to reduce greenhouse gas emissions and pollution from power plants. If a national Cool Communities program were to be implemented with 100 million trees/year, the $CO_2$ savings, including carbon benefits and energy savings, would be 1 MMT carbon by the year 2000.

## IV. Future Action and Progress

EPA continues to work under the authority of the Clean Air Act to reduce the risks of air pollution and global warming, and has been participating in the development of the National Action Plan to stabilize greenhouse gas emissions to 1990 levels by the year 2000. The President's National Action Plan to reduce greenhouse gases to 1990 levels by the year 2000 will consider possibilities across all sectors including energy demand, energy supply, transportation, methane and other gases, sinks and joint implementation. This commitment will not only help to reduce the risk of global warming but also to prevent pollution. In many cases, reduction of $CO_2$ - the most prevalent greenhouse gas - will also lead to reductions in $SO_x$, $NO_x$, particulate

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

SPECIAL

August 4, 1993

LEGISLATIVE REFERRAL MEMORANDUM

LRM #I-1015

TO: Legislative Liaison Officer -

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FROM: RONALD K. PETERSON (for) Ronald K Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Holly FITTER (395-3233)**
**Secretary's line (for simple responses): 395-6194**
Mark KRAMER (395-3445)

SUBJECT: HHS Statement for the Record RE: S 729, Lead Exposure Reduction Act of 1993

**DEADLINE: 10:00 AM August 9, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
B. Clendenin
M. Mitchell
S. Semenuk
K. McGinty
C. Walden/B. Burke
H. Paster

STATEMENT FOR THE RECORD

U.S. FOOD AND DRUG ADMINISTRATION

PUBLIC HEALTH SERVICE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

SUBCOMMITTEE ON TOXIC SUBSTANCES, ENVIRONMENTAL OVERSIGHT, RESEARCH AND DEVELOPMENT

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

U.S. SENATE

JUNE 29, 1993

Roger McClung 690-7450

Mr. Chairman:

The Food and Drug Administration (FDA) appreciates this opportunity to submit its views for the record on S. 729, the "Lead Exposure Reduction Act of 1993." The bill would amend the Toxic Substances Control Act to reduce the levels of lead in the environment. With respect to FDA, S. 729 would amend the Federal Food, Drug, and Cosmetic Act (FDC Act) to reduce the levels of lead in food packaging and other products regulated by FDA such as ceramicware, crystalware, wine, and bottled water.

This statement will discuss the current responsibilities of FDA regarding the regulation of lead levels in our food supply and FDA's activities related to this regulation as applicable to S. 729.

GENERAL BACKGROUND

Lead is a toxic metal with no known health benefit to humans. This metal, nevertheless, is incorporated into all living organisms through the ubiquitous distribution of lead in the environment (soil, air, and water). Most of the lead to which we are exposed stems from man's activities. Industrial emissions, effluents and discharges, by-products from the use of leaded gasoline, as well as some community water supplies, have been continuous sources of lead contamination in the environment.

A certain amount of lead is inevitably consumed in the food we eat, since both crops and animals are contaminated from environmental sources. Lead can also enter the food supply from non-environmental sources such as food processing equipment, lead solder in cans, and leaching from ceramicware and crystalware. The presence of lead in foods has been of concern to FDA throughout this century.

Lead accumulates in the human body gradually over a lifetime, residing primarily in bones, with smaller amounts accumulating in soft tissue. The risk to infants and children and to the developing fetus is of major concern because they are more susceptible to the effects of lead than adults. There is growing evidence that lead affects growth and can cause learning and behavioral disorders in children even at low levels once thought to be acceptable. There is no known safe level for humans. Scientific evidence, however, indicates that although the lead levels in blood in the U.S. population have been reduced in recent years, levels are still elevated relative to less industrialized societies.

## HISTORICAL OVERVIEW OF LEAD EXPOSURE REDUCTION

Over the years, various Federal agencies have tried to minimize public exposure to lead. FDA's interest in the health risk due to lead dates from the enactment of the Food and Drugs Act of 1906. In the 1930's FDA devoted considerable research and regulatory resources to control lead residues resulting from the spraying of lead-containing pesticides on fruits and vegetables. In 1934, FDA performed analytical research to investigate the effect of storage on the lead content of evaporated milk. FDA developed methods for detecting and measuring lead in foods in 1934 and 1935.

## FDA ACTIVITIES CONCERNING LEAD

FDA currently has a number of programs to monitor and reduce the amount of lead in the food supply.

### Lead Solder in Food Cans

FDA launched its major lead control initiative in the 1970's, the goal of which was the reduction of lead in canned foods, which at one time contributed about one-third of the lead which the average person obtained from food. Through a cooperative effort between FDA and the canning industry, the number of food cans containing lead solder has been reduced voluntarily. At this

time, approximately 4 percent of the food cans available to U.S. consumers contain lead solder, all of which are imported. According to the Can Manufacturing Institute, there are now no American-made food cans containing lead solder. To eliminate this source of exposure to lead, FDA has recently proposed to ban the use lead solder in cans used for packaging foods.

Total Diet Study

FDA's Total Diet Study is designed to estimate the dietary intakes of various nutrients and contaminants, including lead, for 14 age/sex groups, from infants to senior citizens. Each year, FDA personnel purchase "market baskets" of 234 food items each, that typify the American diet. These market baskets are bought from local supermarkets or grocery stores just as a shopper would do, four times per year throughout the United States. The foods are prepared table ready and then are analyzed for essential nutrients and various contaminants, including toxic metals, pesticides, radionuclides, and industrial chemicals. The findings from these analyses, coupled with data on the amounts of these foods consumed, permit the Agency to calculate the dietary intakes of contaminants by a variety of different population groups based on age and gender. The Total Diet data allow FDA to estimate the amount of lead consumed in foods as they are customarily eaten.

For example, according to data from the 1982 Total Diet Study, the average lead intake for children weighing 9 kg (6-11 months old) was 15.5 micrograms per day; for children weighing 13 kg (2 years old) the average daily lead intake was 25.2 micrograms. The Total Diet Study data reveal that by 1988-89 the average lead intake had dropped for these two groups to 4.8 micrograms and 5.0 micrograms per day, respectively. Thus, data from the Total Diet Study indicate that from 1982 to the present, dietary lead intake has declined markedly, primarily due to reduction of lead solder in food cans.

Lead in Ceramicware

FDA is also responsible for evaluating the safety of materials that come into contact with foods. Lead has been a component in glazing materials used for ceramic dishes, bowls, pitchers, plates, and other earthenware for centuries, and most ceramicware products sold in the United States today are coated with glazes that contain lead. A glaze is a thin coating that is applied and fused onto a shaped body of clay. A glaze containing lead has to be heated, or fired, to a high enough temperature for a sufficient length of time to be sure it is safe. If glazes are properly formulated, applied, and fired, the final product will not release excessive levels of lead into foods contained in the ware. However, lower quality or improperly fired glazes used on

ceramicware can release unacceptably high levels of lead into foods contacting the ceramicware.

The principal danger to consumers is posed by ceramicware products that are improperly formulated or fired, especially if they are used to store acidic foods. If the ceramicware is improperly manufactured, the acid in foods can accelerate the leaching of lead from the ware. FDA became aware of the problem of lead migration into food from pottery glazes in 1969 after a California family suffered severe lead poisoning from drinking orange juice stored in a pitcher purchased in Mexico.

Following a survey in 1970 of imported pottery in which were found high levels of lead migration into food-simulating acidic solutions, FDA issued a compliance program in May 1971 to monitor foreign and domestic pottery for leachable lead. Under this program, FDA has inspected factories and analyzed samples from every major domestic manufacturer of ceramic dinnerware. The products of domestic manufacturers have exceeded the limits for lead leaching, (at which FDA considers regulatory action appropriate), at a relatively low rate. The Agency also routinely samples imported ceramicware. The violation rate for these products has been higher than that for domestic items. Items with too high lead levels are denied entry into the United States.

In 1971, FDA also established a level for release of lead from ceramic foodware that was of regulatory concern. That level was 7 parts per million (ppm). FDA has since lowered the levels it uses in 1980 based upon recommendations from the World Health Organization, and the levels now vary according to the size and use of the product, and the potential for exposure to population groups at risk. For example, the action level of 0.5 ppm for leachable lead from ceramicware pitchers is based on potential exposure in children who may drink orange juice, an acidic beverage which leaches greater levels of lead than non-acidic beverages, stored in the ceramicware pitcher.

Finally, as further protection for consumers, FDA is considering adoption of a final rule that would clearly demarcate ceramicware that is intended only to be decorative and that is not for food use. Attached is a list of regulatory limits for lead in various products under FDA jurisdiction.

Lead in Crystalware

FDA has worked with the International Crystalware Federation, a consortium representing a majority of crystalware manufacturers, in an attempt to achieve a reduction in the leachable lead from crystal goblets and decanters. As a result, crystalware manufacturers agreed to share data on technological developments to reduce leachable lead levels in crystal. Crystalware

manufacturers also have voluntarily established standards for leachable lead levels from crystalware and are monitoring for compliance with these standards by conducting analytical trials to detect violative patterns.

Lead in Wine

In conjunction with the Bureau of Alcohol, Tobacco, and Firearms, FDA has worked to ensure that the level of lead in wine does not exceed 300 parts per billion (ppb). This level was arrived at based on an assessment of the potential for exposure by women of childbearing age. FDA believes this level will provide a means of providing protection to consumers of large volumes of wine that may contain sufficient lead to place them at risk from non-developmental effects. The Agency is reviewing data that seem to suggest that this limit for lead in wine should be reduced further, and thus, provide even greater protection to women of childbearing age.

Other FDA Lead Reduction Activities

FDA is also moving to reduce lead levels in food additives and calcium supplements. FDA is preparing an advance notice of proposed rulemaking to obtain comment on the extent to which the lead levels in the food additives listed in the proposal can be reduced by use of Good Manufacturing Practices (GMPs). This list

was developed following a food additive review to assess the impact of the population's total exposure to the additive and the average amount the lead contributed by this exposure.

FDA also has proposed a maximum allowable limit of 5.0 ppb for lead in bottled water. Since the source of most lead in water is from plumbing systems, manufacturers can control lead in bottled water through GMPs. Many individuals are replacing or supplementing their normal fluid intake with bottled water, so the imposition of this limit on lead in bottled water should assist individuals in reducing their total daily exposure to lead.

For the Subcommittee's information, a chronology of FDA's activities regarding lead is attached.

S. 729

FDA supports the goal of S. 729 and the efforts of Congress to reduce sources of lead contamination in the environment and, thereby, human exposure to lead. We defer to the Environmental Protection Agency (EPA) regarding the overall direction of the legislation and provisions that would give EPA authority with respect to reduction of lead contamination in the environment. As previously discussed, FDA's efforts are already directed at the reduction of the same sources of lead as those addressed in

S. 729. FDA believes that its actions may mitigate the need for legislation. FDA also believes that the timeframes proposed in S. 729 for development of regulations are unreasonable in light of the procedures required for this process, because in some instances formal rulemaking (which involves a hearing and stay of the effect of the regulation until a final decision in the rulemaking is reached) would be required. We would suggest giving the Agency the option to use an informal rulemaking procedure which would expedite the development of these regulations.

Conclusion

FDA is committed to assuring a safe food supply and will continue to pursue all avenues to remove controllable lead from the American diet.

FDA supports the goals of S. 729 and the efforts of Congress to reduce lead in the environment. FDA already has been taking actions to minimize or prevent exposure to lead from sources under the jurisdiction of the FDC Act. We believe our efforts over the years already have substantially reduced lead levels in our diet, and we are actively seeking ways to reduce those levels further. These efforts are directed at some of the same sources as those identified in S. 729.

# CHRONOLOGICAL OUTLINE OF FDA LEAD ACTIVITIES

| | |
|---|---|
| 1930 | Initiated enforcement program on lead-based pesticides in fruits and vegetables. |
| 1934-5 | Developed new methods for the measurement of lead in food. |
| 1962 | Public Health Service set drinking water standard of 50 ppb lead (3/6/62). |
| 1970 | Surveyed leachable lead in imported ceramicware. |
| 1971 | Set action level of 7 ppm of lead from ceramicware to special leaching solution. Worked with industry on self-surveillance programs to limit lead migration. |
| 1971+ | Added enamelware and pewter to existing Compliance Policy Guide (CPG). |
| 1971+ | Added silver-plated hollowware to existing CPG. |
| 1971+ | Set action level of 0.5 ppm leachable lead for silver-plated cups intended for use by infants. |
| 1971 | Ad Hoc Health, Education, and Welfare (HEW) Committee of Experts on Pediatric Lead establish guideline of 300 micrograms (mcg)/day for infants as the maximum daily exposure to lead for children aged 1-3 years. |
| 1973 | Began analysis for lead in Total Diet Study. |
| 1973 | 50 ppb limit of lead set for bottled water (11/26/73). |
| 1977 | Ad Hoc HEW Committee recommended total lead exposure not to exceed 100 mcg/day for infants under 6 months and 150 mcg/day for children 6 months to 2 years. |
| 1978 | FDA notice of guidelines on lead and cadmium in decorated glass tumblers. |
| 1978 | Lead acetate permanently listed as a color additive for hair dyes. |
| 1979 | Published plan to reduce lead content of canned foods by 50%. |

| | |
|---|---|
| 1979 | Infant juice and infant food manufacturers completed voluntary switch from lead soldered cans to glass jars. |
| 1979 | Published Memorandum of Understanding (MOU) with EPA and USDA for a study on background concentrations of cadmium, lead, and other selected metals in soils and crops in major production areas (44 CFR 44940). |
| 1979 | Action levels for lead in ceramicware foodware (mcg lead per mL leaching solution) set for: flatware - 7; small hollowware - 5.0; large hollowware - 2.5 mcg lead. |
| 1982 | Joint EPA, FDA, and USDA Statement of Federal Policy and Guidance published on Land Application of Municipal Sewage Sludge for the Protection of Fruits and Vegetables. |
| 1982 | Study finds lead in bone meal up to 12.8 ppm. |
| 1985 | Evaporated milk industry in U.S. completed conversion to non-lead soldered cans. FDA conducted evaporated milk survey. |
| 1988 | Congressional hearing on lead in housewares (6/27/88). |
| 1988 | MOU formalized with China (PRC) providing for certification by the Chinese Government that lead leaching from ceramicware is below the FDA action level. |
| 1989 | Published a provisional tolerable intake for food of 6-18 mcg/day for 10 kg child. Proposed a regulatory limit for ceramic pitchers of 0.1 mcg/mL (25 to 50 times lower than current action level. |
| 1989 | Began investigation based on limited data that some coffee urns may release significant amounts of lead. |
| 1990 | Reevaluated approaches to control leachable lead in other ceramicware such as cookware and flatware. |
| 1990 | Evaluated the value to public health of eliminating the use of lead in solder for food cans. |

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1992 Published notice of new CPG for leachable lead in ceramicware (7/6/92).

1992 Proposed rule to ban foils in lead wine seals (11/25/92).

1993 Proposed rule to ban lead solder in all food cans (6/21/93).

ACTION LEVELS FOR LEAD IN PRODUCTS UNDER FDA JURISDICTION

WINE - 300 parts per billion
LARGE HOLLOWWARE - 1 part per million
SMALL HOLLOWWARE - 2 parts per million
FLATWARE - 3 parts per million
HOT BEVERAGE MUGS/PITCHERS - .5 parts per million

PROPOSED LIMITS FOR LEAD IN PRODUCTS UNDER FDA JURISDICTION

BOTTLED WATER - 5 parts per billion
LEAD FOIL SEALS/LEAD SOLDER CANS - 0 parts per million

First Draft:MStiff:7/9/93
Second Draft:MStiff:7/16/93
Review By:
Dennis Strickland:7/21/93
Carolyn Hommel:7/12/93 & 7/21/93
Neil Sass: 7/12/93 & 7/16/93
Phil Derfler:7/13/93 & 7/19/93
John Wessel:7/12/93
Judy Riggins:7/16/93
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TESTIMONY OF

MR. ROBERT SUSSMAN

DEPUTY ADMINISTRATOR

U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE

THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

Thank you, Mr. Chairman. It is a real pleasure to appear before you and the Committee to discuss the important subject of environmental technology and the National Environmental Technology Act. I want to congratulate the Committee and the bill's sponsors for their leadership on this issue. As you know, technology innovation is an issue of great importance to this Administration. A proposal for a new Environmental Technology Initiative is included in the President's 1994 budget request. We believe the goals of the legislation that is the subject of today's hearing are consistent with President Clinton's call for investing in the technological future of America. We look forward to working with the bill's sponsors and the Committee to enhance its provisions and make it complementary to our existing programs and initiatives.

In my testimony today, I will discuss three topics: the Administration's views and initiatives related to environmental technology innovation, EPA's role in environmental technology

development, and the Agency's comments on the National Environmental Technology Act.

Administration Views And Initiatives

In the past, the environmental debate has been distorted by a false dichotomy between environmental and economic goals. This Administration believes that economic growth and environmental protection are compatible. In fact, we believe that well-crafted regulations and environmental programs can encourage innovation, promote competition, and improve our environment. A sound environment, in turn, can spur economic growth. Government efforts to promote technological innovation can and must be a vital component of our nation's environmental infrastructure.

Although we have made great environmental progress in the United States, many environmental problems remain intractable or expensive to resolve. In addition, in the absence of rapid technological advance, population and economic growth will increasingly overcome our ability to maintain environmental quality and compete economically. Thus, facilitating the development and use of innovative technologies is critical to EPA's success in fulfilling its mission. Further, for economic and environmental protection reasons, we must ensure that U.S. industry is at the forefront in providing environmental solutions to the rest of the world. The cost of failure is high.

In recognizing these pressing problems, the Administration has identified the need for government to play a partnering and leadership role in bringing technologies from the entrepreneur's garage to the global market. It is essential that government create a bridge between the laboratory and full-scale commercialization. Currently, small businesses develop most of the new environmental technology in this country. Given the risky nature and large capital costs of technology development and full-scale demonstration, however, they often face a shortage of capital and reluctance on the part of investors to commit the funds necessary for commercialization.

As you know, this Administration has acted swiftly to propose an environmental technology program that will stimulate investments in innovation and coordinate environmental technology efforts throughout the Federal government. The Administration has proposed a $36 million Environmental Technology Initiative in the FY94 budget now before Congress. We view this proposal as the initial step in a multi-year initiative to integrate and improve federal efforts to support environmental technology innovation and diffusion.

The Administration has also established a technology policy initiative under the leadership of the Vice President. This effort is being coordinated by the White House's Office of Science and Technology Policy and the National Economic Council.

In addition, on Earth Day, the President asked the Department of Commerce (DOC), working closely with EPA and the Department of Energy (DOE), to develop a strategy to increase exports of U.S. environmental technologies and to improve our competitiveness in the growing world market for environmentally sound products and services. To support this strategy, a successful technology program must produce cost-effective solutions to international as well as domestic environmental problems. In the context of this effort, work is already underway to catalog existing federal environmental technology programs. I believe that better coordination of these programs is an important first step. EPA is playing a major role in this effort and is involved in related interagency workgroups on small and growing businesses, infrastructure, and broader technology issues.

As a part of these initiatives, EPA is forging partnerships with other key agencies including the Departments of Commerce, Energy, and State, and the Export-Import Bank. All of these agencies share our belief that technological innovation is a key to improved environmental protection and economic growth. The career staff at EPA tell me that EPA and these other agencies are working together more cooperatively than ever before. This teamwork creates a great potential for success, and one that will only be enhanced by a close working relationship with Congress.

EPA's Role in Environmental Technology Innovation

I would now like to turn to a discussion of EPA's role in environmental technology innovation. EPA's primary role in these efforts has been, and will continue to be, to help facilitate technological innovation and disseminate credible technology information. We have several strengths to offer in this regard:

(1) The environmental technology market is created and shaped in large part by EPA and State regulatory, permitting, and enforcement programs. Most EPA regulations specify which parties will be regulated and define required environmental performance. Thus, EPA can anticipate future technology needs and adopt rules and implementing policies that facilitate the development and use of technology solutions. For example, marketable emissions credits or similar economic instruments can be a major incentive to encourage use of innovative technologies. As a further example, EPA, by focusing on performance in the implementation of standards, can encourage the development and use of pollution prevention solutions.

(2) Innovative technologies must gain regulatory acceptance by permit writers, on-scene coordinators, and rule developers before they can be used for compliance purposes. EPA involvement in technology development and testing programs can lend credibility and enhance a new

technology's ultimate acceptability.

(3) EPA is viewed throughout the world as an objective, honest broker whose reputation can enhance the domestic and foreign acceptance of new technologies. EPA's outstanding scientists, engineers, laboratories and testing facilities can play a critical role in the success of new technologies by contributing to the development of better solutions, by cooperating in testing, and by standardizing the quality of performance data.

In the past, EPA has applied these strengths by undertaking, together with other agencies, a number of responsibilities, including:

**Collaborating on Technology Development**

EPA has worked successfully with industry in implementing the provisions of the Federal Technology Transfer Act (FTTA). The FTTA provides enhanced opportunity for collaboration while protecting intellectual and other property rights of the participants. Along the same lines, EPA has instituted a Design for the Environment program in which the Agency works collaboratively with industry to identify process and raw material modifications that can prevent the production of pollutants. Similarly, the Department of Energy's Office of Industrial Technology has a substantial program oriented

toward cooperative development of industrial technologies.

**Convener and Promoter**

EPA often assumes the role of convener, catalyzer, and coordinator. Recent examples of this work include the EPA Bioremediation Action Committee and workshops on combustion technology, municipal solid waste technology, green process modeling, and innovative physical separation technologies.

**Development Financing**

EPA has been funding development of innovative technology through grants and cooperative agreements for years. Generally, venture capital is available only in the later stages of development when cost effectiveness and regulatory compliance are assured. Because of budget limitations, EPA programs generally focus on the less costly initial stages of development. Thus, there is a gap in the availability of financial support for small companies during the middle stages of development (large pilot, prototype scale-up).

**Business Assistance**

EPA has only limited experience in providing business assistance. EPA does support the National Environmental Technology Applications Corporation (NETAC), which assists developers with business plans, market analyses, patenting, licensing, and other activities. EPA is also developing a new program, U.S. Technology for International Environmental

Solutions, consisting of a consortia of Federal agencies and private interests that would attempt to provide credible information on cost-effectiveness of U.S. solutions to foreign environmental problems.

**Enhancing Performance Credibility**

EPA has developed two innovative technology evaluation programs that are designed to establish credibility for promising products. The Superfund Innovative Technology Evaluation (SITE) program and a more recent municipal waste program (MITE) independently test innovative technologies in cooperation with the private sector. The tests are conducted under real world conditions and the results are widely disseminated. The purpose is to corroborate the cost effectiveness of these technologies to give potential users a credible basis for determining which technology to select.

**Technology Transfer Agent**

The National Institute of Standards and Technology (NIST) is in the process of creating 170 Manufacturing Technology Centers around the country to transfer technology information, including environmental information, to the private sector. EPA has assisted in technology transfer through publications clearinghouses, workshops, and conferences.

While these programs have yielded important results, we believe much more is possible.

Comments on the Bill

From the perspective of EPA's experience and unique relationship to environmental technology issues, I would suggest that there are certain basic principles that should guide the development of our policies and programs in the technology innovation arena. These principles are reflected in our comments on the Bill:

(1) We must forge partnerships among government agencies and with the private sector to increase the effectiveness of technology innovation efforts and the pace of technological change.

(2) Government must focus on more than just environmental technology development. We need to work on commercialization and diffusion as well. We also need to identify incentives we can use in our environmental management programs to foster innovation and identify other opportunities where our regulatory programs can be modified to enhance environmentally sound technology development and diffusion efforts.

(3) The scope of our efforts must extend beyond pollution control and site remediation. We need to be supportive of process changes in industry that promote pollution prevention as the preferred strategy of environmental protection.

(4) While EPA funds only a small part of Federal environmental technology innovation efforts, we have a unique expertise and role in the environmental technology marketplace stemming from our regulatory function. Therefore, EPA must take a leadership position by contributing our expertise to Federal and private innovative technology efforts.

With these principles in mind, EPA has concluded that the National Environmental Technology Act holds great promise for improving the U.S. Government's performance as a catalyst for innovative technology development.

Specifically, we believe that EPA's role can be improved by the addition of a new National Environmental Technologies Institute function as envisioned in the Bill. EPA's in-house Innovative Technology Council currently serves to link our technology programs, but the Institute function proposed in the Bill will provide a greater impetus to integrate all of EPA's efforts in this field and would support government-wide program integration. Moreover, the existence of a fully operational Environmental Technologies Institute will begin to more accurately reflect the importance of environmental technology innovation as an environmental protection strategy and an engine of economic growth.

The Agency also embraces the "Clearinghouse" concept outlined in Subtitle B of Title II. Although program-specific technology

databases are maintained in many of EPA's offices, there is no centralized environmental technology clearinghouse mechanism at this time. We believe, as the sponsors do, that such a clearinghouse will provide substantial benefits to industry, the public, and the environment. In achieving these goals, we also anticipate taking steps to improve the process by which the Agency participates in the transfer of technology information.

The Agency also supports the concept behind the Environmental Innovation Research Programs provided for in Title III of the Bill. We concur with the sponsors' assessment that helping encourage environmental technology innovation should be a key component of the U.S. Government's major environmental cleanup programs.

The sponsors of the Bill are clearly aware of the "credibility gap" that inhibits commercialization of environmental technologies developed by small businesses. The testing and reporting programs described in Title III Subtitle B and Title IV Subtitle A of the Bill will augment existing efforts to address this barrier to technology development. We support the goals of this endeavor as well.

Finally, although the Agency endorses the broad concept of the National Environmental Technology Panel created under Title I of the Bill, I will defer discussion of this provision to Dr. Gibbons, since the Office of Science and Technology Policy which he directs will play the lead role in the Panel.

Thus, the Agency supports the goals of the Bill and many of its provisions. There are, however, several concerns that we have been working closely with the Committee to resolve. Although some of these concerns may have been addressed in the most recent drafts of the Bill, I would like to reinforce some of the important observations we have discussed with the staff which should be borne in mind as the Committee continues to consider the bill:

First, we want to make sure that the bill creates a more effective role for government in the *entire* technology innovation process. For example, the Bill should be clearer in providing that EPA:

- Be involved, as appropriate, in all phases of technology development and use, as proposed in the Administration's Initiative. This includes research, development, demonstration, testing, evaluation, and technology diffusion. This is not consistently clear in the Bill;

- Consider all types of technologies in programs authorized by the Bill, as EPA does in existing programs. We believe that if the National Environmental Technologies Institute is to become a successful partner in environmental technology innovation, it will need consistent authority to pursue the whole range of environmental technologies including pollution prevention, recycling, pollution control, remediation, monitoring and site assessment, and information management;

and,

- Have flexibility with respect to matching funding requirements for projects. The public/private fund matching requirement is critical to assuring that technology supported will be targeted on real-world problems. We are concerned, however, that quantitative match requirements for funding eligibility under Titles II and III will preclude many small businesses from participating and may preclude other useful kinds of cooperative efforts as well.

Second, we agree with the bill's focus on increasing the credibility of performance data on innovative technologies and enhancing the process for disseminating performance data. Industry will not use -- and regulators will not approve -- innovative technologies unless they have confidence in the data. We are concerned, however, that EPA is not well situated to certify the performance of all technologies in all circumstances in which they can be used. The Agency clearly could develop, collect, and publish credible performance data, but should not be in the role of making certification decisions. Such a process is extremely resource intensive, raises liability concerns, and may even delay diffusion of innovations while users await government data.

Third, I would like to note, in reference to the creation of an Environmental Technology Advisory Council in Title IV Subtitle B, that on February 10, 1993, the President signed Executive Order

12838, "Termination and Limitation of Federal Advisory Committees," ordering each agency to prepare, within 90 days, a detailed review of all existing advisory commissions. Agencies are in the process of submitting to OMB their recommendations regarding which advisory commissions are unnecessary and should be terminated. As a general policy and pending completion of this review, the Administration does not support provisions that would establish or reauthorize advisory commissions.

Finally, we have concerns about the resource implications of the Bill. As with any new legislative responsibility, we must be sure that the Agency has adequate resources to fulfill Congress's mandate. As you know, the Agency is operating under a strict ceiling on its number of Full Time Equivalent (FTE) positions. We are concerned that administering the provisions of NETA could prove to be resource-intensive and could limit the effectiveness of other high priority EPA programs and initiatives.

Thank you again, Mr. Chairman, for the opportunity to provide comments on this important legislative initiative. If the United States is to have a competitive economy and sustainable environment, we need to promote and facilitate environmentally useful technology innovation. Government programs are only now beginning to give technology development the attention it deserves. EPA congratulates you on your efforts in this regard and looks forward to working with you as the Committee further deliberates and refines its bill.

**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

**SPECIAL**

**June 7, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #M-355**

**TO: Legislative Liaison Officer -**

JUSTICE - Faith Burton - (202)514-2141 - 217

FROM: RONALD K. PETERSON (for) Ronald K. Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Pam BARR (395-5852)**

SUBJECT: EPA Proposed Testimony on Superfund and Agency-wide Contracts and Financial Management Issues at the EPA

**DEADLINE: 3:00 PM June 8, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
K. Turco
C. Vallina
B. Damus
K. McGinty

FAX
17 pgs

DRAFT

STATEMENT OF
SALLYANNE HARPER
ACTING ASSISTANT ADMINISTRATOR FOR
ADMINISTRATION AND RESOURCES MANAGEMENT
AND
RICHARD G. GUIMOND
ACTING ASSISTANT ADMINISTRATOR FOR
SOLID WASTE AND EMERGENCY RESPONSE
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON SUPERFUND, RECYCLING AND SOLID WASTE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

JUNE 10, 1993

Mr. Chairman, we appreciate your invitation to appear before the Committee today to discuss both Superfund and Agency-wide contracts and financial management issues at the Environmental Protection Agency. We welcome this opportunity to update you on a number of our plans and improvement initiatives.

Over the last several years, contracts management has received a great deal of scrutiny before various Congressional committees and subcommittees. The nature of the disclosures resulting from this scrutiny identified problems in the contracts management arena, not only in the EPA but also throughout the federal Government. We can assure you that contracts management is of critical concern to the EPA.

On March 10, 1993, Administrator Browner spoke on this issue before Congressman Dingell and the members of the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce. She noted that reports of the Agency's problems in handling contracts were reflective of underlying problems in the Agency culture. During the course of

Chuck Hamett - 260-5417

the hearing, the Administrator outlined her initiatives for getting to the root cause of these problems. We would like to describe our approach to these problems and the initiatives the Administrator has designed to address them.

Last spring, EPA established the Standing Committee on Contracts Management and directed it to perform an in-depth analysis of the Agency's contracts management. The committee's report was significant, not only because of the deficiencies it reported, but also because it discussed, for the first time, an EPA cultural philosophy of "mission over management." It is the Administrator's intent to change this cultural philosophy. Implementing the many valuable recommendations made by the committee will not have a meaningful impact on improving contracts management unless we change the underlying culture.

The Administrator's initiatives are centered on three principles - accountability, good management, and discipline. The key points of accountability are the Administrator's senior management team. Accountability will be further enhanced through the establishment of a high level council of the Agency's managers. This council is responsible for not only integrating management with mission but also for integrating the use of all of EPA's various resource management tools.

The Administrator has established a pilot program to diminish the Agency's present reliance on a small group of contractors. This program involves breaking up some of EPA's umbrella contracts, which are large, mission-oriented, level-of-

effort type contracts, with broad and varied statements of work. Their use has resulted in vulnerabilities such as performance of work outside the scope of the contract, "contract shopping", and improperly directing the subcontractors of the prime contractor. The smaller replacement contracts will have better defined statements of work, be more competitively priced, and provide opportunities for more businesses, including small businesses, to contract with the Agency.

To assess the Agency's management of its resources, the Administrator has initiated a base review for Fiscal Year 1994. This review will provide information on how resource allocation decisions are made and what resource constraints encumber us in executing our mission. It will enable the Agency to determine if current resources can be redirected to help solve some of the contracts management problems we are discussing today.

The Administrator has also emphasized the need to establish a disciplinary system which conveys to EPA managers and staff the consequences resulting from resource management violations. This system will be communicated to every employee so that EPA staff and its managers understand they will be held accountable for their actions and any contract-related offenses.

We would now like to tell you of some specific accomplishments and major strides EPA has taken in the past year, highlight for you some ongoing initiatives, and let you know where we feel we still need improvements. Although we want to

share with you some Agency-wide progress, we will also be focusing on Superfund-related contracting issues.

Accomplishments

Background -- Alternative Remedial Contracting Strategy

The Alternative Remedial Contracting Strategy (ARCS) was designed in the mid-1980's to provide a second generation of Superfund contracts to undertake remedial planning activities at hazardous waste sites on the National Priorities List. Previously these services had been provided by a small number of national and multi-regional zone contracts. Key features of the new strategy included increasing competition through the award of a greater number of smaller regionally-based contracts, promoting project continuity by use of the same contractor in undertaking various phases of remedial activities at a given site, establishing enhanced performance incentives to promote superior contractor performance and, most importantly, to decentralize contract management to EPA's regional offices. In all, from January 1988 through September 1989, 45 ARCS contracts were awarded to 23 individual prime contractors.

ARCS Task Force Report

Early in 1991 the Agency was criticized for its management of the ARCS contracts. Specifically, EPA was accused of allowing Superfund contractors to spend public funds on activities that did not directly contribute to the cleanup of hazardous waste sites. In response to these allegations, the previous

Administrator established a Task Force of senior Agency officials to review and analyze the ARCS program.

The ARCS Task Force Report, issued in October 1991, contained 32 recommendations in six functional areas which included program management activities, contract capacity and utilization, contract controls, financial audits and reviews, the award fee and performance evaluation process, and Agency management processes and organization. Currently 28 of the 32 recommendations made by the Task Force have been implemented.

One of the most critical recommendations addressed the need to achieve cost reductions and strengthen cost controls through the development of guidance to support cost management activities particularly in the area of program management. The guidance was promulgated in February, 1993.

Another major recommendation concerned the need to develop a regional capacity for independent government cost estimates for activities under the ARCS contracts. An assessment of existing cost estimating tools was performed and specific guidance provided in August, 1992.

A third significant recommendation concerned the establishment of the ARCS Council and a nationwide network of regional contract management teams charged with oversight of the continuous improvement of contracts management. Such a council was formed and through its stewardship many of our improvements to the Superfund contracting process are in place.

**Reduction in ARCS Contract Capacity**

Originally, ARCS capacity was based on Superfund workload projections developed in the 1986-87 time frame. These projections were subsequently increased to ensure flexibility and to promote competition among contractors for new work. Following award, it became apparent that the actual workload was not as high as expected. As noted by the General Accounting Office, this drop in ARCS workload was the result of policy shifts within the Agency, including an increased emphasis on enforcement, and a decision to continue our relationship with the US Army Corps of Engineers in the area of remedial design and construction.

The need to balance ARCS contract capacity was explicitly addressed in the Agency's Task Force Report of 1991, which concluded that the appropriate contract capacity was available in seven of ten regions. The Report further acknowledged that Region 4 had already targeted two contracts for termination. Subsequently, Region 4 terminated one ARCS contract and ended assignment of new work to a second, effectively reducing the ARCS capacity by over one-third.

The Task Force also recommended that capacity and utilization be reviewed annually. This capacity analysis was completed during March 1992. It determined that 87% to 98% of the available capacity would be used over the 10 year period of performance of the contracts. This finding has since been confirmed by the need for new contracts in four regions before

1996, three years ahead of the scheduled expiration of the ARCS contracts.

The most recent national capacity review conducted during the latter part of 1992 continued to show a workload well in line with contract capacity in most Regions. The Agency continues to monitor capacity and utilization across the Regions and make adjustments as necessary.

**Program Management**

ARCS Program Management (PM) was established to capture and track costs that cannot be attributed to a particular site. PM cost categories are typical of those incurred under all contracts and include both technical cleanup costs such as equipment purchases, technical guidance development, and pollution liability insurance premiums; and administrative support costs for managing the overall contract such as progress reporting and financial management.

PM costs are tracked by comparing them against total contract expenditures. PM costs were high initially (averaging 54% over the first two years of operations) reflecting the initial mobilization costs and the lower than expected utilization. However, significant progress has been achieved in reducing PM costs as reflected by an average of 18% over the past three years. Further, the Agency achieved the 15% target mandated by Congress for fiscal 1992 (the actual rate was 14%), and we are working towards the 12% target established for fiscal

1993 (the first quarter actual was 12.3%, and the second quarter actual was 12.1%).

**Agency Contracts Management Accomplishments**

EPA's Standing Committee on Contracts Management has implemented many quality initiatives to improve contracts management Agency-wide. First of all, we now inform individuals before they become EPA employees that certain positions may require contracts management oversight by specifying those duties in each vacancy announcement. Contracts management responsibilities are further detailed in each contract manager's position description. Finally, all contract managers are now evaluated on how well they perform these specified contract management related duties.

Accomplishments in the area of contracts management education is taking many forms. In addition to a comprehensive, ongoing initiative to overhaul our training program, the Agency has issued a draft "how to" guide on developing independent government cost estimates and has required its usage for all contract work orders over $25,000. In addition, to make guidance more accessible, we recently compiled an index of all contracts management documents EPA has issued and will keep an updated copy of this index in each Agency library.

Because of the efforts of the Standing Committee, the Agency has also taken critical steps to reduce contract management vulnerabilities before award of certain contracts. The Agency now requires that each contract manager prepare a contract

management plan to discuss potentially vulnerable areas and how they will be minimized before a contract is awarded. The Agency is also formalizing the acquisition planning process so that programs can simultaneously chart their contracting, resource, and training needs.

Additionally, we are looking at ways to strengthen internal controls. As an example, the Agency has issued a checklist of contract-related questions to guide program offices during their annual Federal Managers' Financial Integrity Act (FMFIA) reviews. This will help them better determine if their offices are vulnerable to waste, fraud, and abuse.

It is worth noting that, at the Administrator's direction, we are expanding the role of the Standing Committee on Contracts Management to focus on all extramural resources management. The group is now known as the Resources Management Committee and its membership will include all senior managers who are responsible for extramural resources oversight.

**Allowable Cost Initiatives**

A year ago, EPA was a key participant in a review of civilian agency contracting practices conducted by the Office of Management and Budget, know as the OMB Swat Team. EPA made a number of significant recommendations which were included in the OMB Final Report. In particular, EPA recommended major changes to Federal cost principles, making it clear that costs incurred for items such as parties, business meals, and gifts are unallowable on all Government contracts. EPA also recommended

that contractors be required to certify that their indirect cost claims do not include any unallowable costs and that there be penalties charged to contractors that claim costs that are not allowable. New EPA contractors are required to certify as to the allowability of their costs but we do not yet have the authority to impose penalties.

Financial Management

In the financial management area, there are two major accomplishments we would like to discuss. One, EPA issued its first set of financial statements under the Chief Financial Officers (CFOs) Act. These statements, which cover all trust funds (including Superfund) for FY 1992, are the first in what EPA hopes will be a series of financial management improvements mandated by the CFOs Act. The statements provide both financial and programmatic information. As indicated by the Inspector General in his soon-to-be-completed audit, improvements in the financial statements themselves and financial management are needed. Nonetheless, EPA considers this first year's financial statements an accomplishment especially given that this was a major new requirement for the Agency.

Second, EPA has successfully developed tools which provide major support for the Superfund cost recovery program. One example is EPA's image processing system which enables us to assemble a document package in hours, a process which used to take weeks. These packages are critical for cost recovery litigation. EPA has also improved financial reporting for

Superfund cost recovery, resulting in complete reports, both at a detailed and summary level, of all costs incurred in connection with Superfund site response. And, EPA has improved its accounting policies to increase the amounts available for recovery of response costs from responsible parties.

On-going Initiatives

Response Action Contracts

EPA has developed a Superfund Long-term Contracting Strategy which is restructuring all new Superfund contracts over the next decade according to function, rather than by program area as in the past. This strategy will have all new field contracts managed by the regtional offices, rather than centrally managed by Headquarters, thereby improving the efficiency and direct management of the contractors.

As part of this new strategy, the Response Action Contracts (RACs) will be EPA's next generation of Superfund cleanup contracts. These contracts will be procured as the Regions deplete the capacity of their existing ARCS contracts. The RACs contain enhancements which address issues previously raised with the ARCS in the areas of program management, contracat cost control, and the payment of award fee.

The Agency has structured the Program Support (management) component of the RACs to include among other costs: mobilization, contract integrity, information control and reporting, ongoing technical support services; and contract closeout. The Regions will periodically issue and negotiate work assignements for these

ctivities. Mobilization and contract closeout are one-time costs; other Program Support activities will be ongoing over the period of the contract. This approact provides the Regions the flexibility to monitor and control the Program Support costs associated with the Response Action Contracts and complies with the Agency's goal to minimize these costs.

In order to improve overall contract cost containment, revisions are being made in the area of contract type. RACs will allow for costs to be negotiated with the contractor in advance of the performance of the work with the guarantee of a deliverable product within pre-established costs. This is a major change from the ARCS, where work could be performed with no certainty that a final product would be received within the negotiated costs.

A final enhancement in RACs is in the payment of award fee. Unlike ARCS, the payment of award fee will not be made for expected, or satisfactory performance. To encourage sustained quality performance, only performance at the exceed expectations and outstanding levels will receive award fee.

Agency Contracts Management Initiatives

In keeping with EPA's concerns about improved contracts management accountability across the board, the Standing Committee on Contracts Management has developed several recommendations to make immediate improvements to the procurement process. For example, a "cookbook" to assist program officials

in the procurement process is well underway and should be distributed Agency-wide by mid-August.

A pilot is also progressing to co-locate contracting officers within a Superfund program office to see if this will simplify the contracts management process. The pilot will last three years at which time a decision will be made as to the feasibility of its expansion to other programs.

There is also a pilot studying the effectiveness of quality contracting teams. These teams consist of both procuring and administrative contracting officers, the project officer and his/her manager, legal counsel, a cost analyst, and a property administrator, if warranted, to accomplish life cycle management of contracts from the pre-award phase to contract closeout.

A third pilot will examine the use of a hybrid type contract allowing the competition of both firm-fixed price and cost-type work orders among a pool of qualified vendors. This pilot is designed to enhance contractor competition, thereby receiving competitive prices, as well as move away from an Agency reliance on cost-type contracting.

**Financial Management Initiatives**

In the financial management area, as we stated, a major focus for us is the CFOs Act. We also referred to the Administrator's commitment to establishing a structure of management accountability. Using authorities under the CFOs Act, EPA is building accountability into financial management. By this, We mean that all Agency officials will be held accountable

**EXECUTIVE OFFICE OF THE PRESIDENT**
**OFFICE OF MANAGEMENT AND BUDGET**
**Washington, D.C. 20503**

URGENT

**April 28, 1993**

**LEGISLATIVE REFERRAL MEMORANDUM**

**LRM #M-211**

TO: Legislative Liaison Officer -

AGRIC-CR - Robin Rorapaugh (all testimony) - (202)720-7095 - 230
COMMERCE - Michael A. Levitt - (202)482-3086 - 324
INTERIOR - Ralph Hill - (202)208-6706 - 329
JUSTICE - Faith Burton - (202)514-2141 - 217
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CORPS ENGINEERS - Susan Bond - (202)272-0030 - 239
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CEA - Francine Obermiller - (202)395-5036 - 242
TVA - Alan Carmichael - (202)479-4412 - 332
OSTP - Damar Hawkins - (202)456-6272 - 288

FROM: RONALD K. PETERSON (for) Ronald K. Peterson
Assistant Director for Legislative Reference

**OMB CONTACT: Holly FITTER (395-3233)**
**Secretary's line (for simple responses): 395-6194**
Linda WIESMAN (395-6808)

SUBJECT: EPA Proposed Testimony on Wetlands Activities of the Army Corps of Engineers

**DEADLINE: 3:00 PM April 30, 1993**

OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

**Please advise us if this item will affect direct spending or receipts for purposes of the the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

CC:
T. Hunt
D. Tangherlini
K. McGinty
G. Simon
J. Payne
S. Cameron
B. Damus

LRM #M-211

**RESPONSE TO LEGISLATIVE REFERRAL MEMORANDUM**

If your response to this request for views is **simple** (e.g., concur/no comment) we prefer that you respond by **faxing** us this response sheet. If the response is **simple** and you prefer to call, please **call the branch-wide line** shown below (NOT the analyst's line) to leave a message with a secretary.

You may **also respond** by (1) calling the analyst/attorney's direct line (you will be connected to voice mail if the analyst does not answer); (2) sending us a memo or letter; or (3) if you are an OASIS user in the Executive Office of the President, sending an E-mail message. Please **include** the LRM number shown above, and the **subject** shown below.

TO: Holly FITTER (395-3233)
Office of Management and Budget
Fax Number: (202) 395-5691
Analyst/Attorney's Direct Number: (202) 395-3233
Branch-Wide Line (to reach secretary): (202) 395-6194

FROM: _____ (Date)

_____ (Name)

_____ (Agency)

_____ (Telephone)

SUBJECT: EPA Proposed Testimony on Wetlands Activities of the Army Corps of Engineers

The following is the response of our agency to your request for views on the above-captioned subject:

_____ Concur

_____ No objection

_____ No comment

_____ See proposed edits on pages _____

_____ Other: _____

_____ FAX RETURN of _____ pages, attached to this response sheet

**TESTIMONY OF**
**CAROL M. BROWNER**
**ADMINISTRATOR**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**BEFORE THE**
**SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**
**OF THE**
**COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION**
**U.S. HOUSE OF REPRESENTATIVES**

May 5, 1993

Good morning, Mr. Chairman and Members of the Subcommittee; I am Carol Browner, Administrator of the Environmental Protection Agency (EPA). Accompanying me this morning is Martha Prothro, Acting Assistant Administrator for Water. I am very pleased to appear before you today to discuss the important challenges that confront our Nation, her leaders, and all citizens as we undertake to achieve the goals of the Clean Water Act (CWA).

Mr. Chairman, I appreciate your role in fostering this CWA reauthorization process, and I look forward to working with you on the many issues involved, particularly: ***funding*** issues associated with drinking water and wastewater treatment; ways to promote ***watershed protection*** and ***pollution prevention***; and solutions to water quality problems associated with ***polluted runoff*** from wet weather flows. These critical environmental issues require effective, innovative solutions that, in practice, can be implemented with the resources we can *reasonably* expect to be available to governments and the private sector. We need to tap the energy and ideas generated by public and private partnerships and to involve those with a stake not only in achieving the goals but in implementing the solutions by which these goals are to be attained. Investment in our natural

resources not only reflects our obligation to act as stewards of our environment—to hold the environment in trust for our children, but also represents sound economic policy.

## INTRODUCTION

The CWA has been a cornerstone of EPA's environmental protection efforts for the last two decades. The Act gives us broad and flexible authorities and, because of this, the Act is considered by many experts to be one of the best federal environmental statutes. Under the CWA, we already work with States, localities, the private sector, and citizens to address serious water resource problems posed by municipal and industrial discharges, and discharges of dredged or fill material, as well as by polluted runoff from what are known as nonpoint sources. More recently, we are reorienting our focus to move beyond simply controlling pollution sources, to addressing the aquatic ecosystems and integrating, or improving, the programs needed to protect and restore them. We know that our Nation's aquatic ecosystems provide habitat to many diverse forms of life. We must consider not only the chemical but also the physical and biological components of these systems to maintain the integrity of our Nation's waters. The challenge facing us today is how to focus on the remaining threats to our Nation's waters, some of which may not be adequately addressed through current national regulatory or cooperative programs EPA now implements.

At the same time, we must also recognize that new initiatives have placed and will continue to place a significant increased burden on State and federal water quality protection programs. Similar demands are placed on local drinking water systems. Without additional funding, State and local water and wastewater programs will not be able to fulfill the mandates of the CWA or the Safe Drinking Water Act, or meet the expectations of the public.

We need to be sure that adequate resources are available—and available for the right purposes—in order to ensure continued progress in protecting water quality. Similarly, we have seen industry come to applaud and even promote pollution prevention as a common sense approach to reducing costly pollution controls while conserving valuable raw materials. We also recognize that in some instances economic incentives and market forces can be used to achieve progress even where traditional controls cannot. Finally, we must not overlook the economic consequences if we choose to abandon our commitment to the environment.

Although we must do better at quantifying these economic costs, many of the benefits of protecting and restoring our Nation's waters are obvious, including: improved health and increased life spans resulting from cleaner drinking water; safe and more abundant sources of food supply, recreation and commerce; natural flood and erosion protection; improved efficiency of our industries and farms; and abundant fish, shellfish, and wildlife and the irreplaceable natural environment.

Even in difficult economic times, the American people have said they recognize the cost of neglecting the environment and have reaffirmed their conviction that money spent on surface water pollution control and drinking water treatment are sound investments. We are all beginning to appreciate the fact that safe, healthy water resources and healthy aquatic systems are not cost-free, and to appreciate as well that it is worth the cost.

We have a great deal of which to be proud. Thanks to sustained effort by federal and State environmental agencies, timely compliance by many dischargers, and the vigilance of citizen groups and government enforcement authorities, the discharge of toxics and other pollutants to our Nation's waters has decreased significantly. Nearly 75% of the Nation's assessed surface waters are meeting their statutory goals based on current water quality standards. This progress must not be lost and, as our science improves, we must continue to address discharges of toxic pollutants by industry and municipal wastewater plants.

At the same time, we must recognize that nonpoint sources, together with unaddressed point sources such as storm water runoff and combined sewer overflows (CSOs), are responsible for the majority of our remaining water quality problems. Through the reauthorization of the CWA, together we offer this Nation a precious opportunity to attain its environmental goals. This requires us to acknowledge not only that pollution comes from many pathways, but also that it can often be addressed in a common sense, effective manner, using tools that are already within our reach.

# OUR FOUNDATION: THE STRUCTURE OF THE CLEAN WATER ACT

## Overview

Before we sketch possibilities for the future, I believe it is important to understand the foundation upon which we build. In 1972, Congress gave EPA, the Army Corps of Engineers, and the States broad authority to address water pollution. The goal of the CWA is to "restore and maintain the chemical, physical, and biological integrity of our Nation's waters." Under this mandate, we have developed sound programs to reduce point source discharges of pollutants entering all surface waters, including lakes, rivers, estuaries, oceans, and wetlands. Through the construction grants program and, more recently, the State revolving fund (SRF) program, the federal government has made available to States and municipalities nearly $67 billion since 1956 to finance the construction of major wastewater treatment facilities and the implementation of other critical water quality improvement programs. The statute also has promoted better assessment, identification and targeting of impaired waterbodies and has taken first steps toward addressing the consequences of wet weather flows, polluted runoff, habitat loss and, to some extent, poor watershed management.

Under the CWA, EPA develops national uniform effluent limitation guidelines, new source performance standards, and pretreatment standards for categories of industries, such as electroplating, pharmaceutical manufacturing, and textiles. These effluent guidelines and standards generally reflect application of the best

available technology that is economically achievable. They also include best management practices. Early guidelines covered roughly 129 toxic pollutants, while our more recent guidelines have covered over 400 toxic pollutants. Sewage treatment plants, in turn, are subject to secondary treatment requirements. Though often referred to as "technology-based" standards, these regulations set end-of-pipe performance standards, allowing dischargers to select any feasible method for compliance.

States are given primary responsibility to develop water quality standards for waters within their jurisdiction. State water quality standards provide the basis for many federal and State water quality management decisions. In developing these standards, States designate specific uses for their waters--such as fishing, swimming, or drinking--and prescribe criteria to protect these uses. These criteria were traditionally pollutant-specific and define levels of pollutants that will not interfere with the designated use. States typically use both national criteria guidance issued by EPA and other scientific information to develop their standards. Recently, through State and federal rulemaking, numeric water quality criteria for "priority" toxic pollutants are now in place for waters impaired or threatened by those pollutants. EPA is also developing criteria guidance for States to use in adopting standards to address physical and biological parameters. In addition, State water quality standards programs include an antidegradation policy to ensure that existing uses and high quality water resources are maintained. States must review their standards every three years to ensure that they remain adequate,

especially in light of new scientific and technical information and additional criteria that may need to be adopted to fully protect designated uses.

The National Pollutant Discharge Elimination System Program

The water pollution permit program, known as the National Pollutant Discharge Elimination System (NPDES) program, is one tool by which State or federal permitting authorities translate State water quality standards and federal effluent guidelines into actual pollutant limits for point source dischargers. NPDES programs are administered by EPA, or by States with EPA approval. Currently, 38 States and 1 territory are authorized to operate NPDES programs; EPA administers the NPDES program in all other jurisdictions, although three States--South Dakota, Texas, and my home State of Florida--are in the process of seeking necessary NPDES authority. The national NPDES program addresses more than 65,000 traditional "point source dischargers" such as industries, municipal sewage treatment plants, and some classes of animal feeding operations. In addition, there are well over 100,000 point sources addressed under the urban and industrial storm water portion of the program and 1100 combined sewer systems with more than 10,000 CSOs. The NPDES program has been widely credited as the principal reason for the significant water quality improvement in our Nation's waters over the last 20 years.

Pretreatment Program

The CWA does not require EPA or State NPDES permits for industries that discharge into municipal sanitary sewer systems rather than directly into surface waters. Instead, these "indirect dischargers" are addressed through the pretreatment program. Prior to discharging into municipal systems, they are required to remove, or pretreat, those pollutants that could interfere with the operation of a sewage treatment plant or that could pass through and pollute surface waters or the sludge produced by the treatment process. The role of EPA and approved States is to set requirements and procedures for approval of local pretreatment programs, oversee implementation, promulgate national technology-based standards for indirect dischargers, and operate programs where State and local governments do not. These local programs also establish and enforce local limits more stringent than national standards when necessary to protect water quality, sludge quality, and worker health and safety. EPA, States, and approximately 1,500 approved cities are responsible for imposing and enforcing national as well as any local pretreatment requirements for over 30,000 significant industrial users and thousands of smaller indirect dischargers.

The §404 Program

In addition to the NPDES permitting program, the CWA creates a program in §404 to govern the discharge of dredged or fill material into navigable waters.

This program, administered jointly with the Army Corps of Engineers, is a significant component of EPA's efforts to protect aquatic ecosystems.

Under §404, EPA develops the environmental regulatory criteria for evaluating permit applications. EPA also reviews permit applications and, if necessary, can "veto" permits that would result in unacceptable adverse impacts to wildlife, fisheries, recreation, or municipal water supplies. EPA and the Corps share responsibility for enforcement of the §404 program, and EPA is responsible for approval and oversight of State §404 programs. In addition, under our responsibilities for administering the CWA as a whole, EPA also has the ultimate authority to define the geographic scope of CWA jurisdiction, including wetlands, and to determine the scope of activities exempt under §404(f). It is this role that prompted Congress to appropriate funds to EPA for the purpose of having the National Academy of Sciences conduct a study on wetlands delineation.

EPA's efforts to address wetland and other aquatic resources loss and degradation go beyond the §404 program. We are working with our State counterparts to enhance their role in comprehensive protection, including helping them to assume §404 authority. EPA is providing limited grant assistance to help States develop wetlands programs and providing technical assistance in areas such as §401 water quality certification, wetland water quality standards, and integrating wetlands into water resource planning through watershed plans and management practices. EPA has provided assistance to 19 States through Fiscal Year 1992 to develop State Wetland Conservation Plans or Strategies as a way to

integrate and improve the effectiveness of protection and restoration programs. EPA has established a Wetlands Hotline to help answer questions and information needs of the general public.

EPA, in conjunction with other federal, State, and local groups, is developing private/public partnerships to protect wetlands such as co-sponsoring American Wetlands Month each May, encouraging private landowner participation in voluntary wetlands assistance programs, and creating the Audubon's America program. EPA just completed its next five-year Wetlands Research plan focusing on wetland functions and criteria to protect those functions, landscape scale assessment, and improving wetlands restoration and creation.

## Enforcement

Essential to the success of the CWA is the presence of a vigorous enforcement program. Enforcement and the manner in which we exercise the discretion to use enforcement tools remain an integral component of a successful environmental program. One successful example of EPA's enforcement effort is the National Municipal Policy, under which States and EPA assured municipal facilities met the CWA July 1, 1988 statutory deadline for wastewater treatment. Largely as a consequence of the National Municipal Policy, of the 4,000 major municipal NPDES permittees, the number in significant non-compliance has decreased from an average of 15% in fiscal year 1986 to 9% for the first quarter of 1993. In 1987, 74% of the municipal facilities had installed treatment

necessary to meet basic technology-based requirements. In 1993, that number has increased to 97%.

EPA has also implemented an aggressive administrative and judicial enforcement program. In fiscal year 1992, EPA took approximately 1450 formal enforcement actions under the CWA. Of these, 272 involved the assessment of penalties totalling $23,066,200. Further, over the period of time from 1989 through 1992, the average judicial penalty has increased from about $143,800 to about $414,500. The average administrative penalty has also increased over the same time period from $17,080 to $22,895. Since 1975, the Agency has concluded 904 judicial cases and, since 1987, 802 administrative penalty cases, for a total of over $125 million in penalties.

## Water Quality Act of 1987 and the Coastal Zone Act Reauthorization Amendments of 1990

In 1987, the Water Quality Act amended the CWA and signaled some important new directions for EPA and the States: new water quality-based controls for toxic pollutants; industrial and municipal storm water controls; new State responsibilities for polluted runoff to surface waters; and increased attention to special aquatic resources such as estuaries, bays, and lakes, as well as critical aquatic habitat such as wetlands. The Act also ushered in the State Revolving Fund (SRF) program to provide continuing support for wastewater treatment. Although previous statutes had begun to address these problems, the 1987

amendments reflected the Nation's increased awareness that water quality degradation is caused not only by pollutants pouring out of pipes, but also from nutrients, soil, and chemicals that run off our streets, farms, fields, and forests. The amendments also recognized that diverse ecological resources must be protected by means of geographically targeted solutions to locally identified problems. Without yielding the gains which we achieved throught the application of traditional, end-of-pipe controls over other causes of water pollution, we need to reaffirm and, indeed, to expand our federal, State and local efforts to address impairments from uncontrolled wet weather point sources and non-point sources.

In addition, pursuant to the Coastal Zone Act Reauthorization Amendments of 1990, 29 coastal States and territories are developing, for joint approval by EPA and the National Oceanic and Atmospheric Administration (NOAA), coastal nonpoint pollution control programs to prevent or minimize contaminated runoff to waters associated with agriculture, silviculture, urban activities, marinas, and hydromodification through application of best management practices and protection and restoration of wetland and riparian areas. These programs will provide for the implementation of management measures in conformity with guidance published by EPA and will also provide for the implementation of additional management measures as necessary to achieve and maintain water quality standards and protect designated uses. EPA's management measures guidance was developed in collaboration with our sister federal agencies, States, the potentially affected sources, and the public. We believe that these coastal

nonpoint programs represent an important step in the restoration and protection of our Nation's impaired and threatened waters.

## OUR GUIDING PRINCIPLES

### Watershed Protection

Before addressing specific issues, I would like to articulate what I believe should be the guiding principles for CWA reauthorization. Even as our Nation's water quality steadily improves, we face new challenges that demand new solutions. I have already indicated that the ***protection of watersheds*** must be a priority for us. But what does this mean? The Clinton Administration envisions an approach to water resource protection that looks first to the ecosystem itself, evaluates its needs based on risk, and then tailors solutions to those needs through the participation of stakeholders in every phase of the process. As the Act itself envisions, our focus is on the biological and physical, as well as chemical, integrity of our Nation's waters. Although the Act's national technology baseline requirements have provided enormous environmental protection, this framework, which we call the "watershed protection approach," provides us with the methods and the solutions needed to tackle the problems still facing our Nation's waters, those problems that are too diffuse and difficult to tackle any other way. Focusing on the watershed as a whole rather than merely on specific sources of pollution within the watershed is essential to ensure that we succeed in restoring and protecting the Nation's aquatic resources.

We must also apply a similar approach for the Nation's ground waters. We are increasingly finding that ground water recharge to surface waters can be a critical factor in determining the ecological health of aquatic systems. We need to ensure incorporation of ground water in our watershed approach both to account for its influence on surface water and to insure against the possibility of transferring a pollution problem from surface water to underground sources of drinking water.

Pollution Prevention

I believe our second guiding principle should be an emphasis on ***pollution prevention***. In the water program, as in other environmental programs, traditional end-of-the-pipe approaches have yielded significant gains in environmental quality. However, we now realize that treatment and disposal will not be sufficient to ensure continued progress. A more comprehensive, prevention-oriented approach within our base regulatory program will allow us to move even more effectively toward meeting the overall goals of the CWA.

There are numerous other benefits offered by implementing a pollution prevention philosophy. By reducing reliance on end-of-pipe or permit-by-permit controls, prevention also reduces the likelihood that a "solution" to one pollution problem will simply transfer the residual pollutants to different media. In particular, we have seen the transfer of surface water contamination to ground water contamination. Pollution prevention approaches, such as switching to different process solvents and reducing water use, have the potential to produce permanent

solutions to environmental problems—solutions that require less investment in expensive pollution control and greater emphasis on good planning and strategic designs. It includes conservation techniques and changes in management practices to prevent harm to sensitive ecosystems and resources such as wetlands, ground water and estuaries. In addition, prevention may be the most practical way to address many of the remaining sources of water pollution such as agriculture and urban runoff, the cumulative effects of incremental habitat loss, or numerous small sources (such as dry cleaning facilities and auto repair shops), which can result in significant impairments of our water resources at the local level. Pollution prevention also complements the watershed approach. It offers additional tools that give us greater capability and greater flexibility to address localized problems requiring heightened attention.

Recognition of the Value and Cost of Clean Water and Healthy Waterbodies

Our third guiding principle must be our recognition of the value—and the cost—of clean water and healthy waterbodies. The Nation's waters, whether degraded or pristine, are our children's inheritance. Measures we take now must not only return what is lost but also guard what is yet unblemished. However, these responsibilities carry a substantial price tag. We expect water safe enough to swim in, to fish from and to drink, and we expect healthy and diverse populations of plants and animals in our lakes, streams, wetlands, estuaries and oceans. Consequently, we must also expect to address the costs of treating our wastewater and our drinking water. By funding States, municipalities, and federal

agencies adequately, we can help to ensure a reliable infrastructure of storm sewers, wastewater sewers, sewage treatment plants, and drinking water supply and treatment facilities upon which public health, our quality of life and many of our important economic sectors depend. Similarly, funding is necessary for other water quality programs to strengthen the scientific basis and guidance to support the prevention and control of nonpoint source pollution and the protection and restoration of estuaries and other important components of watersheds.

Clean, safe water was once viewed as free, but in our modern society this is recognized to be a false view. Just as we believe that the polluter should assume, at a minimum, the costs associated with researching, developing, administering and enforcing the permits under which the polluter is allowed to discharge pollutants into the aquatic environment, all of us, as users of our water resources, must appreciate and help bear the costs of water quality protection. As individuals, we pay user fees imposed by utilities to finance necessary treatment projects. We must also be sensitive to the importance of using water efficiently, to help keep costs down and to prevent further degradation of our aquatic ecosystem. By acknowledging public and private responsibility for the costs of clean, safe water we also foster greater invention and innovation as the public and private sectors realize that it is to their economic advantage to improve water quality in the most cost-effective manner possible. We anticipate fostering further innovation by examining and lowering barriers to technology innovation and by

creating incentives, including trading programs where appropriate, that encourage innovation.

Need to Address Wet Weather Flow Problems

The fourth guiding principle for reauthorization is the need to address the remaining water quality problems. Many of these are associated with wet weather flows: overflows from antiquated combined sewer systems that result in the discharge of raw sewage, commercial and industrial wastes and storm water during wet weather events; discharges from separate storm sewer systems that deliver toxics and other pollutants from urban and industrial sites to our waters; and polluted runoff from nonpoint sources. In addition, I believe we must confront the consequences of poorly managed land and water use activities that impair our Nation's ecological resources and address the habitat degradation and destruction that frequently results. The first twenty years of water pollution control under the CWA has accomplished much through its regulation of traditional industrial and municipal discharges. However, we must focus our attention now on these remaining problems and attempt to address them as effectively as we have addressed the problems of the past.

Enforcement

Finally, we need to enhance State and federal administration of water quality programs by strengthening enforcement authorities. A strengthened enforcement program would allow the Agency to respond more effectively to facilities that are not in compliance with the requirements of the CWA. For example, we would

support an amendment to increase the administrative penalty cap to allow EPA greater flexibility in using the statute's administrative enforcement mechanism, explicit authorization for EPA to negotiate supplemental environmental projects as part of enforcement case settlements, and an amendment of the Class I administrative procedures to allow EPA to issue field citations for certain types of violations, similar to those contained in the Oil Pollution and Clean Air Acts.

## THE CHALLENGES AHEAD

As we begin the process to reauthorize the CWA, we need to consider the ecological and human health dimensions of protecting our aquatic resources. Today's problems are very different than those of the past. In addition, our challenges involve recognizing that "water quality" goes well beyond the chemical water column. Rather, protecting and improving water quality must also address physical and biological integrity as well as the integrity of the surrounding watershed that is an integral part of the total ecosystem.

Although we have many challenges facing us, I would like to focus my testimony today on three particularly critical issues: first, the threats posed to our aquatic ecosystem that can be addressed only by focusing public and private efforts on geographically targeted watersheds, where the sources of impairment and the degradation they produce operate in close and dangerous proximity; second, the need for adequate funding to support State and local solutions and to implement federal requirements under both the CWA and the Safe Drinking Water

Act; and third, water quality problems caused by wet weather flows, such as CSOs, storm water discharges, and polluted runoff from nonpoint sources.

## Watershed Management

The principal goal of the CWA is to protect and restore waterbody uses by ensuring their biological, chemical and physical integrity. As the water program has matured, we now have the tools and the understanding of ecosystems to expand our focus beyond a simplistic emphasis on chemical pollution. Therefore, EPA strongly supports what we call the "watershed protection approach," which is a way of promoting a more holistic, risk-based approach to the complex and often persistent problems in watersheds around the Nation. By focusing on the watershed as a whole rather than on specific sources within the watershed, we believe that we can address the watershed's problems more comprehensively, efficiently and effectively and at the same time take better advantage of the energy and resources of our public and private partners.

We can no longer assume that "national" solutions will solve all local problems. By adding a stronger geographically based approach to protecting our aquatic resources, we can ensure that solutions--shaped by the local community as well as by State and federal participants--are carefully tailored to address the unique circumstances facing each locality. This local tailoring can help ensure that we achieve the dual goals of adequately protecting our water resources and doing it in the most cost-effective fashion. As we build these partnerships, we

concentrate our resources on locally targeted problems, foster new, innovative approaches and solutions, and promote implementation of these solutions through the empowerment of local stakeholders.

The watershed approach is not new to EPA and has been used effectively in several geographically targeted programs, including: the Clean Lakes Program, the National Estuary Program (NEP), initiatives focusing on the Great Lakes, the Gulf of Mexico, and the Chesapeake Bay, and the Near Coastal Waters Program. For example, the Great Lakes Program establishes a partnership of the federal government and appropriate State, tribal, and international agencies to work together in remedying the problems facing the lakes, which together comprise 20% of the world's supply of fresh surface water. The Chesapeake Bay Program calls for EPA, in concert with the Bay States, to implement programs to abate pollution in this wonderfully vigorous estuary--the largest in the U.S. Under the NEP, States nominate and EPA selects nationally significant estuaries threatened by pollution, development, or overuse. EPA, the States, local governments, interest groups, and the public jointly identify problems, and develop and carry out comprehensive management plans to protect these recognized estuaries. Our water quality standards program allows each State to tailor its water uses and criteria to meet its unique, local requirements. Yet these are only a start. We must evaluate the watersheds individually and let the people who depend on them tell us what solutions are appropriate. Here are several examples:

- The Rouge River, in Southeast Michigan, a severely polluted urban watercourse, has been identified as a Great Lakes area of concern. with strong local leadership from Wayne County, the city of Detroit, and others, an effective, comprehensive remedial action plan was developed for the Rouge. Currently, a major comprehensive effort among the EPA, the State of Michigan, and the municipalities of Southeast Michigan, is underway to implement a billion dollar remedial program to restore the water quality of this important resource.

- In New England, the Blackstone River suffers from toxic contamination. As part of a watershed initiative, the Commonwealth of Massachusetts and the State of Rhode Island are working with local stakeholders to address the toxics problem, identified by the NEP Narragansett Bay Project as the largest single source of toxic pollutants to Narragansett Bay.

- In Louisiana, hydromodification has contributed to significant loss of wetlands, including bottomland hardwoods. Government officials and the agricultural community are working together to conduct reforestation activities.

- In Kansas, phosphorous loading threatens the Hillsdale Reservoir with eutrophication. Activities are underway to develop a system for managing the reduction of pollutants at their source.

- In California, Morro Bay suffers from sedimentation that, if not addressed, will fill the Bay in approximately 100 years. Agricultural and silvicultural best management practices are being implemented to address the problem.

While we are very encouraged by the progress demonstrated by these examples, I would like to point out that these do not yet reflect the "complete" watershed protection approach I envision. Some programs, such as the NEP, already have authority to comprehensively consider the whole suite of problems affecting a watershed, but do not have authority or resources to implement their plans. Other programs have resources but are only authorized to address specific impacts or sources. We need to bring these approaches together to get integrated, ecosystem management. Nevertheless, each example mentioned above

appropriately conceives the watershed as a whole and involves the stakeholders in the solutions, thereby embracing two of the critical concepts of watershed protection.

The Administration is moving forward even without new legislation to better support ecosystem management. To mention just a few such efforts, the Department of Interior intends to make ecosystems the focus of federal conservation policy; the Forest Service has launched a new policy on ecosystem management; and the Soil Conservation Service has a new strategic plan that uses watershed management as a cornerstone for achieving "Total Resource Management." The Army Corps of Engineers, in its testimony today before this Subcommittee, describes how its approach to §404 permitting is consistent with watershed management approaches.

Watershed management practices can also help to preserve high-value designated uses that may apply to surface waters within the affected watershed. Some cities are using a system of pollution prevention measures to protect watersheds that serve not only as vital sources of drinking water but as productive habitat for fish and wildlife populations. For example, the City of Portland, Oregon, is protecting its public water supplies, along with habitat for the spotted owl through a written agreement with the U.S. Forest Service that includes restrictions on forestry operations and a public access to erodible terrain. These measures have enabled the City to ensure the safety of its drinking water sources without having to install an expensive filtration system. Innovative, cost-effective

alternatives such as this exist in many situations, and we believe that our watershed management approach will help to foster them.

I believe the CWA generally provides EPA and the States with the authority we need to look holistically at the entire aquatic ecosystem. By focusing our attention on watershed management in the context of reauthorization, however, I would like to encourage Congress to promote this approach by harmonizing statutory requirements to support its efficient implementation. This can be accomplished by: shifting emphasis from implementing chemical-specific numeric criteria toward watershed-level ecological risk management; coordinating water quality standard reviews; consolidating planning and priority setting requirements under the Act; allowing the use of one grant application and workplan for funding under sections 106, 205(j) and 604(b); extending eligibilities under §319 and Title VI for watershed management activities; and modifying biennial water quality assessments and reporting under §305(b).

The watershed approach I have sketched focuses on carefully tailored, cost-effective solutions to all stresses on the watershed, including nonpoint source pollution, habitat degradation, wetlands loss, and threats to ground water. A reasoned approach will allow EPA and States the flexibility to attack the highest risks first, without being constrained by statutory mandates that, in some cases, may direct us to focus instead on minor risks. I believe that focusing on watersheds as a whole—in order to identify cause and effect and to develop effective, implementable solutions while at the same time maintaining strong

national programs to protect the gains of the past--is essential to ensure that we succeed in restoring and protecting the Nation's aquatic resources. I would also like to point out that the application of the watershed approach does not imply a backsliding of current requirements. For example, national secondary treatment requirements would remain, and the focus would be on eliminating threats that are not avoided through its application.

## Funding

In 1981, the federal government committed to a ten-year program of $2.4 billion per year for financing the construction of municipal wastewater treatment facilities under the CWA's Title II Construction Grants Program. This level of funding was considered adequate to meet the estimated remaining highest priority needs for interceptor sewers, wastewater treatment plants, and sewer rehabilitation projects to correct infiltration and inflow problems. Other major infrastructure needs, such as correction of CSO pollution problems, were not fully considered in the 1981 plan. In 1987, Congress established the SRF program to provide long-term financial assistance for municipal wastewater infrastructure needs, and phased out the Title II construction grant program. A total of $18 billion was authorized for these two programs through fiscal year 1994, principally to assist municipalities with their remaining municipal sewerage needs and to start to address the more recently identified needs such as CSO correction.

The transition from the Title II construction grant program to the Title VI SRF program has gone well. All States now have approved programs and are receiving capitalization grants. Over $7 billion dollars of federal capitalization funds and $6 billion of State matching funds and bond proceeds have been made available for needed waste water projects. More than 800 municipalities have received low interest loans through the SRF. Approximately 70% of the loan assistance provided to date has been for financing the construction of secondary and advanced wastewater treatment plants. Another 25% has been used for sewer construction, with the remaining 5% available for storm water and nonpoint source management and other projects.

Although EPA has not yet published data from the 1992 survey of the States regarding needs for municipal wastewater treatment, preliminary estimates confirm that needs continue to grow. Total documented needs for secondary treatment, advanced treatment, infiltration and inflow correction, replacement and rehabilitation of deteriorated systems, new collector sewers, new interceptor sewers, and CSO controls have increased in nominal dollars from $90 billion in 1988 to $112 billion in 1992. In general, this increase is caused by one or more of four factors: (1) continued population growth and redistribution; (2) deterioration of older sewers and other facilities; (3) new requirements to protect water quality; and (4) newly eligible activities. For example, advanced treatment needs have grown by $10 billion because secondary treatment controls have proved insufficient to meet water quality standards. Documented needs for CSOs

have increased by $5 billion largely because the costs of CSO controls are better understood today. The $3 billion increase for new collectors is attributable to population growth and redistribution since the last survey.

As daunting as these figures are, there is reason to believe that some needs are seriously underestimated. EPA, States, and localities are still determining how to meet CWA requirements for CSOs and storm water management; therefore, the documented needs do not yet fully reflect the costs of correcting these problems. Based on the 1992 survey of State needs, EPA's Office of Water estimates that the total costs associated with CSO requirements for all 1200 communities nationwide may be closer to $42 billion than to the $22 billion estimated by the States for the 375 communities which have *documented* their CSO pollution control needs. Assuming this is correct, the total funding needs for traditional wastewater infrastructure today is almost $127 billion.

In addition to sewer and wastewater treatment construction needs, States reported information on two new significant categories of needs prompted by new mandates of the 1987 amendments: storm water pollution management and nonpoint source pollution control. The estimates reported for these two categories in the 1992 survey are in the range of $10 billion in constant dollars. And, we have no estimates at all regarding the funding needed for aquatic ecosystem protection and restoration.

In general, States and local communities cannot afford these activities without continued federal support. Because of its revolving fund characteristic,

over a twenty year period the SRF can fund three times the value of projects that could be funded by outright grants. The SRF program is therefore preferable to a grants program for recipients able to repay their loans. However, certain hard-pressed communities, often with small populations, cannot afford to repay loans even when no interest is charged. For such communities, extended repayment periods or even grants may be desirable, but we must balance this against the need to maintain a viable, well-capitalized loan fund.

We are sensitive to the special needs of small and rural communities. We estimate that small communities (defined as communities with systems that serve fewer than 10,000 people and that have a flow of less than 1 million gallons of wastewater per day) have an unmet need of over $13 billion for wastewater treatment facility construction and improvements. This figure represents 12% of the total documented national wastewater treatment construction need of $108 billion.

Since 1972, small communities have received 24% of federal funding under the construction grants program, and 18.5% of the funding under the SRF program. In general, small communities report the same mix of needs as the Nation as a whole. One exception is that small communities report a greater need for new collector sewers than reported for the Nation as a whole. This comparatively large need reflects in part the communities' identification of sewer separation as the only means of CSO control, the need to replace significant numbers of failing septic systems, and greater distances between dwellings that

are common in rural communities. Small rural communities with wastewater needs also can turn to the Rural Development Administration (RDA) for financial assistance.

Inadequate funding for State programs is also a serious problem and is having a significant effect. Based on a 1988 survey of the States, the States, the Association of State and Interstate Water Pollution Control Administrators estimates the annual funding shortfall to be $400 million. The 1987 amendments to the CWA included a number of major new program responsibilities relating to storm water permitting, sludge, and water quality standards for toxic pollutants. There have been virtually no additional federal appropriations to cover these new responsibilities. As a result, in order for EPA and States to make even a minimal effort towards meeting these new responsibilities, when possible, we have had to reallocate substantial resources from our base science, technical, and regulatory activities into these new areas. The result has been a serious erosion of our critical base programs, such as the NPDES permit program. It is critical that these program needs be met if we are going to be successful in meeting the CWA mandates.

A potential major source of revenue, which is essentially untapped at the federal level, is user or discharge fees. A well-thought-out fees program could generate program funding support that would go a long way toward enabling States and EPA to sustain the ongoing base programs and meet the other responsibilities given to us by Congress. Industrial and municipal dischargers

currently receive their permits without any federally imposed fees or charges, even though the cost of developing, issuing, tracking and enforcing an NPDES permit is substantial. The only fees paid are those established under State law, and then only in States authorized to administer the NPDES program. With few exceptions, State fees fall far short of even covering the costs of program administration.

Changes in the law to establish discharge fees could generate adequate funding for the significant costs associated with permit development, compliance monitoring, and enforcement. Fees could be set at levels sufficient to fund programs or at significantly higher levels to introduce market-based incentives into the Act. For example, fees could be imposed on dischargers, generators, and/or users at levels that create incentives to reduce or eliminate the source of pollution. Weighting such fees to reward "cleaner" technologies would create an incentive to move toward such technologies. Therefore, I support not only increased funding of CWA programs but also authority in the statute to promote a uniform and equitable fee system nationwide.

## Wet Weather Flow Issues

### Storm Water

Storm water is a major program area in which EPA and the States together have made some important progress. As you know, the 1987 amendments to the CWA required the Agency to establish a two-phased regulatory program to address the discharge of contaminated storm water to our Nation's waters. States have

reported that storm water discharges from diffuse sources are responsible for approximately one third of remaining assessed surface water impairments in lakes and estuaries.

With the promulgation of the Agency's Phase I storm water regulations in November 1990, implementation of the program is well underway. Over 100,000 industrial activities and more than 220 municipalities and counties are covered under Phase I. To date, tens of thousands of facilities and storm water activities are covered under general NPDES storm water permits. EPA and the States are now beginning the more difficult process of assuring the necessary controls are implemented as required by those permits. We are in the process of developing individual NPDES permits for municipalities and counties covered under Phase I. Both EPA and the States have placed a very heavy emphasis on pollution prevention and implementation of best management practices as the first step in implementing storm water programs.

While Phase I is a major challenge and much more work remains, Phase II of the storm water program represents an even larger undertaking with as many as one million additional commercial, retail, and light industrial activities potentially affected. Also potentially included in this Phase II group are municipalities under 100,000, as well as emerging growth and new development areas around existing urban centers that are not covered under Phase I. A number of issues must be addressed in connection with the implementation of Phase II, notably whether certain dischargers should be targeted for permitting before others, the possible

menu of regulatory and nonregulatory mechanisms that could be used to address high priority sources, and appropriate deadlines.

We are presently developing different options for a Phase II strategy that will provide for the most effective targeting of high risk sources, identify appropriate roles for federal, State and local government, and strike the right balance between pollution control under the nonpoint source program and the issuance of permits under the NPDES program. We think potential Phase II sources outside urbanized areas may best be addressed under an expanded and strengthened nonpoint source program. In terms of legislative priorities for the storm water program, there are two issues, in particular, that I think require legislative attention. These include timing of the Phase II program and clarifying to what degree Phase II sources can indeed be covered under nonpoint source programs. In addition, the Committee may want to consider extending storm water deadlines by which municipalities are to achieve applicable water quality standards.

Combined Sewer Overflows

Another remaining point source problem is combined sewer overflows (CSOs). As many as 1200 cities (85 percent of which are located in the Northeast and Great Lakes areas) which serve a total population of 43,000,000, have antiquated combined sewer systems. During wet weather events, these uncontrolled combined sewer systems discharge raw sewage, commercial and industrial wastes and storm water. States' water quality assessments have shown

CSOs to contribute to water quality impairments, beach closures, fish kills and shellfish bed closures.

In 1989, EPA took steps to address the CSO problem by issuing a CSO Strategy calling for States and municipalities to focus greater attention on controlling CSO discharges such that waters impaired by CSOs would attain water quality standards. EPA has recently circulated a new draft *Combined Sewer Overflow Control Policy* that provides additional guidance on meeting the 1989 CSO Strategy. Through negotiated dialogue with State, environmental, and municipal representatives, the draft policy developed a framework for future action. Public comment has been supportive of the draft policy. The draft policy contains provisions for developing appropriate, site specific NPDES permit requirements for all combined sewer systems that overflow as a result of wet weather, including requirements to ensure attainment of water quality standards, and it announces an enforcement initiative to require immediate elimination of overflows that occur during dry weather.

Based on these efforts, revision to the Act may be unnecessary to properly control CSOs. The existing statute appears to provide sufficient legal authority to implement the draft policy and to bring CSOs into compliance with statutory requirements, including the attainment of State water quality standards. However, one possible area for CSO revision may be compliance deadlines for both technology-based and water quality-based controls. Current CWA compliance dates have passed with few exceptions. EPA can address compliance dates for

CSO controls through existing enforcement authority, but cannot put compliance schedules directly into permits, and must issue separate administrative orders or seek judicial consent decrees. Congress may want to consider clarifying our authority to place compliance schedules directly into NPDES permits, particularly where States do not have the authority to do so.

## Polluted Runoff

Nonpoint source pollution, which is the contaminated runoff from agricultural lands, grazing and forestry operations, commercial activities, and those urban areas not regulated by NPDES permits, is one of our most vexing water quality problems. Nutrients, siltation and pathogens are the most common pollutants causing the degradation. In addition, nonpoint source pollution stemming from increased population growth in sensitive ecosystems, such as in coastal areas and wetlands, also poses a serious threats to waterbody integrity. Much of the most serious pollution comes from agricultural runoff, and much of that is from animal wastes.

Nonpoint source polluton most commonly results in damage to natural ecosystems, including alteration and destruction of habitats. Fertilizer use, and other activities such as septic systems, waste water treatment facilities, industry, feedlots, and pesticide use have also been linked to contamination of ground water. These problems are particularly acute in rural areas of intense agricultural activity where ground water is used as the primary source of drinking water for 95% of the population.

We already possess some tools to help. Section 319 of the CWA, enacted in 1987, required States to assess their nonpoint source problems and to develop programs for minimizing nonpoint source pollution, backed by federal grants. The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) provided a somewhat stronger approach for coastal areas in 29 States and territories, centering on new State programs to implement the best available control technologies economically achievable for categories of nonpoint sources. This program is administered jointly by EPA and NOAA and appears to be well on its way. The 1990 Farm Bill also helps, especially through its water quality and conservation compliance incentives program.

In general, pollution prevention is the preferred approach for addressing the problem of polluted runoff. Several prevention-based techniques are available:

- Use of various land management practices and techniques that keep sediment in place where construction, crop production, grazing or forestry cause land disturbance;
- Consideration of alternative processes or practices that avoid degradation and destruction of critical habitats;
- Restriction of erosion-inducing activities in sensitive areas;
- Changes in pesticide, fertilizer, and water application methods, rates, and timing to maximize effectiveness to target species and minimize waste of the item applied;
- Use of more environmentally benign pesticides, plant strains with natural resistance to pests, and low water use crops and vegetation; and
- Improved pesticide storage, handling, mixing, and loading practices to reduce the likelihood and impact of spills.

The CWA recognizes that States and local governments should play major roles in addressing these nonpoint sources because of the diffuse nature of polluted runoff and because of the need for broad-based teamwork to identify and implement the solutions. Over the last four years, we have provided both technical assistance, and Congress has appropriated over $190 million to help States with approved nonpoint management programs provide technical assistance, education, and implementation of best management practices, both statewide and in priority watersheds.

We believe that we and our many partners are making progress with these and other tools. Based on my experience in Florida, however, I believe that federal programs alone will not work. Local initiative, commitment and incentive is crucial to creating the sense of volunteerism and long-lasting change that will be necessary for success.

At this stage, I believe there are several basic principles that should guide our discussions of the problem of polluted runoff. Specifically:

- State nonpoint source management programs based on effective local participation should be strengthened.
- Voluntary approaches should remain the primary focus, but backup enforcement requirements at the federal level are needed when voluntary approaches fail to produce adequate incentives and necessary environmental improvements.
- Where feasible, pollution prevention should be the approach of first choice for addressing nonpoint source pollution.
- A stronger watershed focus should be brought to bear so that farmers, foresters, and other stakeholders can better understand the connection

between what they do on the land and the benefits they can help to bring to water quality.

- EPA should help to set clearer performance expectations and technical baselines for nonpoint source controls and management practices. We must improve our scientific understanding of the transport, impacts, and means to control problems such as nutrient and siltation pollution, and improve the tools to address them. In this effort, we will need to work closely with other federal agencies, such as NOAA, the U.S. Department of Agriculture and the Departments of Interior and Transportation.

- We should encourage innovation, including public-private partnerships and greater use of market-based incentives, such as trading where appropriate. federal funding should support State and local actions but should not be a prerequisite to accelerating progress.

- We should set clear expectations that water quality will be focused on aquatic ecosystem protection, not just cleaning the chemical water column.

## CONCLUSION

The CWA is one of the best and most implementable statutes we have. As such, it provides us with a valuable opportunity to consider new and innovative solutions to complement the existing array of successful tools and programs we already have to protect human health and the environment. We believe that adopting a watershed protection approach to protect the biological and physical, as well as the chemical, integrity of our Nation's waters is very important. Similarly, we recognize that we must increase our emphasis on pollution prevention as the most practical and cost-effective means of meeting the goals of the Act. In addition, in concert with a strong point source program, we must focus considerably more attention on the sources of polluted runoff and wet weather

flows; we cannot forget that these pollution sources contribute heavily to the persisting impairments our waters experience. We must also undertake to streamline the process of administering and enforcing the CWA. We must incorporate ground water protection into the Act, to address situations where ground water impacts on surface water affect the surface water's ability to meet designated uses. Finally, we must ensure that funding is available to States and municipalities to enable them to execute the responsibilities and obligations that the CWA entrusts to them.

I recognize that I have described a large task, but our Nation's waters issue us a stark challenge that we cannot ignore, except at our own cost. I believe you share with me a respect for the purity of our streams, the diversity of life in our estuaries, the high productivity of our wetlands, the dynamic interplay of forces in our watersheds, and the safety of our drinking water. Therefore, I look forward to working with you, Mr. Chairman, this Subcommittee, the Members of Congress and their staff, our sister federal agencies, State and local governments, and Industry and environmental groups to meet this challenge.

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