Statement of
George Gray, Ph.D.
Assistant Administrator for Research and Development and EPA Science Advisor
United States Environmental Protection Agency
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Committee on Science and Technology
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Mr. Chairman and Members of the Committee, I am pleased to be here today to discuss the Fiscal Year (FY) 2008 budget request for the Environmental Protection Agency (EPA). In keeping with the President's charge to EPA to accelerate the pace of environmental protection while maintaining our nation's economic competitiveness, the 2008 budget request includes $7.2 billion to support the work of EPA and our partners.

Included in this request is $754.5 million for science and technology (S&T), a significant increase over the 2007 Enacted. The request reflects the President's strong commitment to ensure that environmental regulations to protect human health and the natural environment are based on the best science available. The request demonstrates the President's continued commitment to provide the resources needed to address our nation's highest environmental research priorities, enabling us to protect our environment while sustaining our economic growth.

This request includes $539.8 million for the Office of Research and Development (ORD) to continue the work of providing the sound science that informs the Agency's decisions. Ninety-five percent of these resources are requested in the S&T account.

We are always looking for ways to become more efficient and effective at both producing and assessing the best available science to inform environmental decision-making and this is reflected in our proposed budget. For example, in FY 2008 we are combining our $12.3

million Air Toxics and $65.5 million NAAQS research into an integrated air research program, with increased resources, that reflects a shift to a more holistic approach for addressing the science challenges air pollution poses. We are requesting increased funding for high priority work including clean air, human health risk assessment and research to study fate, transport and other issues associated with nanomaterials.

At EPA, we are good stewards of our environment AND good stewards of our nation's tax dollars. Importantly, the budget request will enable ORD to continue to fund critical research on the restoration of large floodplain rivers, develop decision-support tools that enable managers to balance ecosystem requirements with human needs, and emphasize the development of methods to optimize the services provided by ecosystems. The budget will also enable ORD to continue to fund research and meet our critical performance commitments. The human health research funding will allow us to conduct research regarding the health risks of susceptible populations. Additionally, the President's budget request will provide funding for two additional Children's Environmental Health Centers, increasing the number from 7 to 9.

In addition to these areas of increased emphasis, I would now like to highlight progress ORD has made, and continues to make, in a number of other key areas, including homeland security, global change, and computational toxicology.

FY 2008 President's Budget

Integrating and Enhancing Air Research

The President's FY 2008 budget includes a major commitment to strengthening the science that supports the Agency's efforts to ensure clean air for all Americans. The President is requesting $81.1 million for air quality research, which is a $3.4 million increase over the

FY 2007 request. A major focus of this increase will be improving our understanding of air pollution near roads. This is an area of special concern for children, due to the location of many schools and playgrounds. Using both ORD's in-house expertise and the unique capabilities of America's universities and research institutions, we plan to improve measurement and characterization of emissions near roads, study the extent of human exposure to and health effects from these emissions, and examine the effectiveness of potential controls such as barriers or changes in building and roadway design.

This "source-to-health-outcome" approach—from vehicle emissions in the near-road micro-environment, to health effects, and ultimately to control strategies—is emblematic of a larger shift in ORD's air quality research. In FY 2008, in response to recommendations from external scientific reviews, the President's request reflects an integration of the National Ambient Air Quality Standards (NAAQS) and air toxics research programs into a single "one atmosphere" research program. This integration will facilitate a multi-pollutant approach that better tracks emissions from sources to outcomes.

Enhancing Health Risk Assessments

Our FY 2008 request also includes $42.8 million for human health risk assessment, an increase of $4.5 million over the FY 2007 request. This increase will primarily support two areas: an enhanced process for science reviews to support National Ambient Air Quality Standards, and enhanced characterization of risk in our IRIS system and other risk assessments.

As part of the new NAAQS process developed by the Agency, we are committed to meeting the Clean Air Act mandate that EPA assess the science of six "criteria" air pollutants every five years (we have never met this goal) and this funding increase will help us develop the Scientific Assessments (formerly known as Criteria Documents) to support this process.

One of my goals is to both to enhance the transparency of EPA's process for developing health values for the Integrated Risk Information System (IRIS) chemical profiles and the scientific characterization they contain. IRIS is a database containing information on human health effects that may result from exposure to various chemicals in the environment. It has grown into a premier national and international source for chemical hazard and effects. These increased resources will make IRIS stronger through an enhanced development process and by supporting the development of quantitative risk assessment methods to allow improved analysis and characterization of uncertainty.

Expanding Nanotechnology Research

Nanotechnology has the potential to improve the environment through direct applications to detect and remove pollutants, to reduce pollution from manufacturing processes and products or to serve as sensors of pollution in land, water or air. However, the novel beneficial properties, such as greater reactivity, also raise questions about the potential risks of nanomaterials for both humans and the environment. EPA, under its various authorizing statutes, has a responsibility to ensure that any potential environmental risks are adequately understood and managed.

This year ORD began an in-house research program focusing on the human health and environmental implications of engineered nanomaterials to complement our existing extramural grants program. In FY 2008, we plan a modest expansion of our effort by $1.6 million to study the fate and transport of engineered nanomaterials in soils and aquatic ecosystems.

Homeland Security

ORD's homeland security research program continues to develop, enhance and disseminate information on the decontamination of buildings, the protection of water systems, and rapid risk assessment. For example, this past year ORD revised its Standard Analytical

Methods Manual (SAM) that helps ensure consistency in sample analysis during emergencies. The SAM was used recently during a water security threat in Blackstone, Massachusetts, and has since been incorporated into the emergency response plans for each of the 10 EPA regions. We also developed more than 80 oral and inhalation draft Provisionary Advisory Levels for different levels of exposure to agents of potential homeland security concern. To aid responders in detection and sampling, ORD, in conjunction with the Department of Defense, built a prototype of a portable, real-time anthrax and ricin detector, which is currently undergoing testing and modification for ruggedness.

Global Change

I am sure many of you closely watched the release from the Intergovernmental Panel on Climate Change's fourth assessment. Global change is an issue that EPA is very active in, and the President's FY 2008 budget includes $16.9 million for global change research in ORD. We are focusing our efforts on assessing how climate change will affect air and water quality, human health, and the condition of ecosystems and on providing natural resource managers with the information needed to respond effectively to climate change. For example, climate change and variability are expected to produce more frequent and more intense rainstorms in certain areas, and the results of our research are providing local officials with the information they need to make informed decisions on water infrastructure investments.

EPA is a member of the U.S. Climate Change Science Program (CCSP), and ORD's highest priority in FY 2008 will be working with our partners to support completion of the two CCSP assessments for which EPA is responsible - "Preliminary review of adaptation options for

climate-sensitive ecosystems and resources" and "Analyses of the effects of global change on human health and welfare and human systems."[1]

Computational Toxicology

ORD will continue its important work in computational toxicology, applying molecular biology, information management and mathematical and computer models to assess the risks chemicals may pose to human health and the environment. The resulting tools could build upon and replace traditional ways to screen and test chemicals, increasing the efficiency and effectiveness of risk assessment processes while reducing the use of animals. In FY 2008, ORD's computational toxicology research program will focus on information-mining technology, chemical prioritization and categorization tools, systems biology models, and cumulative risk assessment.

Water Infrastructure

Our nation's extensive water infrastructure has the capacity to treat, store, and transport trillions of gallons of water and wastewater per day through millions of miles of pipelines. However, as our infrastructure deteriorates, there are increasing concerns about the ability of this infrastructure to keep up with our future needs.

As part of our effort to address these concerns, in FY 2007 ORD initiated a new Water Infrastructure research program. This program will generate the science and engineering needed to evaluate promising, innovative technologies to repair existing and provide new water infrastructure that improve effectiveness at reduced cost.

Conclusion

By uniquely combining human health and ecological research in one Federal agency employing world-class research scientists, ORD continues to develop a better understanding of

[1] OAR is leading the CCSP assessment titled "Coastal elevation and sensitivity to sea level rise."

environmental risks to both human health and ecosystems. The results of this research consistently and effectively inform EPA's environmental decision-making, as well as that of others, leading to environmental policies based on sound science at the federal, state, tribal and local levels.

As our nation shifts to a green culture, Americans are realizing that environmental responsibility is everyone's responsibility. Today, EPA has 300 million citizen-partners. President Bush's budget request will fund EPA's role as our country enters this next phase of environmental progress.

Thank you for this opportunity to tell you about the exciting work we conduct in ORD. I would be happy to answer any questions you have.