

WRITTEN
TESTIMONY

Paul Anastas, PhD
Assistant Administrator for Research and Development
U.S. Environmental Protection Agency (EPA)

HEARING ON EPA RESEARCH
Before the
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
November 17, 2011

Good morning Chairman Harris, Ranking Member Miller, and other distinguished members of the Committee. My name is Paul Anastas. I am the Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency (EPA).

The Office of Research and Development (ORD) is unique in the environmental science community because it conducts intramural and extramural research across the entire spectrum of disciplines necessary to support the mission of EPA. EPA works with many providers of scientific information to accomplish its mission, including international and domestic academic institutions, state and local agencies, industry, and other federal scientific agencies.

I appreciate the opportunity to talk with you today about our research programs. I understand that the Committee would like me to discuss a number of specific issues, but first I would like to talk about the bigger picture - where I believe EPA needs to be orienting our scientific efforts if it

is going to provide the cutting edge knowledge and tools needed in the 21st century and to be competitive in the world.

Every day, EPA continues to transform the vision of a healthy economy *and* a healthy environment into reality for all Americans. It's a vision that starts with science. The Agency relies on ORD to produce scientifically sound research, methods, and tools to fulfill its legislative mandates and meet its mission to protect human health and the environment. EPA is a world leader in scientific research for human health and environmental protection. The environmental breakthroughs mentioned above could only be achieved through research and development including the that of EPA's scientific research . The cumulative benefits of this work, along with work in other sectors, have restored ecosystems, improved public health, and increased overall life expectancy in a time when our economy and population have continued to grow.

Further, in its 2011 report on *Sustainability and the US EPA*, the National Research Council of the National Academy of Sciences recognized that current approaches aimed at decreasing existing risks, however successful, are not capable of avoiding the complex problems in the US and globally that threaten the planet's critical natural resources and put current and future human generations at risk. In considering sustainability as a way of ensuring long-term human well-being, the report also states that the potential economic value of sustainability to the U.S. is recognized to not merely decrease environmental risks, but also to optimize the social and economic benefits of environmental protection.

ORD RESEARCH PROGRAMS

During the past year, EPA's research programs have been realigned to meet the emerging needs of EPA internal and external stakeholders while advancing the science needed for sustainability. As a starting point, ORD research programs are structured to address the EPA strategic goals in the EPA FY 2011-2015 Strategic Plan. ORD'S research program are focused on:

- Air, Climate, and Energy;
- Safe and Sustainable Water Resources;
- Sustainable and Healthy Communities; and
- Chemical Safety for Sustainability

In addition to above 4 programs, EPA has special responsibilities for two targeted research programs - homeland security and human health risk assessment, which integrates scientific information from EPA and other research to develop health assessments for environmental contaminants.

Organizing our research into these six areas provides ORD with opportunities to integrate and coordinate research among areas that were previously planned and managed separately. For example, the Chemical Safety for Sustainability program now integrates research on pesticides and toxics, endocrine disruptors, and computational toxicology. Similarly, the Safe and Sustainable Waters program brings together research on drinking water and surface water quality. Certain topics, such as climate change,

nitrogen, and children's health, involve multiple scientific disciplines and, therefore, require integration across research programs.

Research is conducted by ORD scientists and engineers working in laboratories and research facilities at 14 locations around the country. They are joined by a network of collaborators and partners, including those supported through EPA's Science to Achieve Results (STAR) extramural research program. The STAR program provides competitive funding opportunities for research grants, graduate and undergraduate fellowships, and larger, largely multidisciplinary research centers. EPA is also one of 11 federal agencies that participate in the Small Business Innovative Research (SBIR) program, enacted in 1982 to strengthen the role of small businesses in federal research and development, create jobs, and promote technical innovation.

Engaging Others in ORD's Research Planning

We are very serious about ensuring that the research and development work in ORD is responsive to the needs of the Agency. Over the past year, through meetings with managers and staff in EPA's program and regional offices, webinars, "listening sessions" with the public, and other open platforms, Agency researchers have undertaken an unprecedented effort to engage EPA's partners and stakeholders inside and outside the government. The discussions sparked collaboration, innovation, and creativity from every corner of the EPA research community involved in designing needed research. ORD is committed to providing ongoing interactions to ensure that Agency program and regional offices, states, tribes, and other

stakeholders receive the scientific information they need to make informed decisions and enforce the nation's environmental laws.

In addition to the steps taken to ensure involvement by the Program and Regional Offices in ORD's research planning process, ORD is committed to providing scientific expertise to the Program Offices as they develop regulations and policy.

ORD research also provides the tools needed to evaluate management options for thousands of sites contaminated by past practices or current environmental releases.

Further, the Science Advisory Board (SAB) provides expert advice on scientific and technical matters within the Agency. We formally request the SAB to review our research plans and proposed allocation of ORD resources each year and ORD values their input.

PEER REVIEW

The EPA takes its responsibility concerning peer review very seriously. For example, all of ORD's draft human health assessments are subjected to rigorous, open, independent, external peer review. The external peer reviewers typically convene at a public meeting to discuss their comments on our work. . We recognize the importance of independent, external peer review in maintaining high standards for the quality of the science and technical products that EPA produces and sponsors. Peer review is an important component of the scientific process that provides a focused, objective evaluation of a draft product. The constructive criticisms, suggestions, and new ideas provided by the peer reviewers stimulate creative thought, and strengthen and confer credibility on the product.

Comprehensive, objective peer reviews lead to good science and product acceptance within the scientific community. Thus, peer review ensures that the Agency’s scientific reports are held to the highest possible standards.

EPA makes every effort to assure that the scientists serving on these review panels do not have any actual or potential conflicts of interest, including an appearance of bias or lack of impartiality. This rigorous process is designed to assure that the Agency’s peer reviews are independent, open, transparent, and of the highest scientific quality.

EPA LABORATORIES – RESPONSE TO THE GAO REPORT

Now I want to discuss EPA’s network of laboratories and the Agency’s response to the recent GAO report about EPA laboratories. I agree with the GAO observation that “EPA’s scientific research, technical support, and analytical services underpin the policies and regulations the agency implements.”¹ The connection between EPA’s laboratory science and Agency decision-making illustrates the strategic importance of EPA’s laboratory network. This network consists of 35 laboratories located in 29 cities nationwide.²

EPA’s laboratory network is comprised of ORD, program office, and regional laboratory organizations. Each of these three laboratory organizations has different objectives³ with respect to EPA’s mission—and a common need for coordination with Agency clients and partners:

- ORD laboratories have primary responsibility for research and development – developing knowledge, assessments, and scientific tools that form the underpinnings of the vast majority of EPA’s protective standards and guidance.
- Program Office laboratories have primary responsibility for directly supporting regulatory implementation, compliance, and enforcement at a national level— e.g., motor vehicle standards testing, pesticide registration.
- Regional laboratories are responsible for providing scientific data and sampling results which support the Regional environmental programs’ needs for immediate information to make decisions on environmental conditions, enforcement, and progress to achieve our nation’s standards for environmental and human health.

While the scientific activities of EPA’s research and program laboratories focus on long-term outcomes at a national level, EPA’s regional laboratories are designed and organized to meet the near-term decision-needs of their Regions, State, and Tribal partners.

EPA has benefited from advice by the U.S. Government Accountability Office (GAO)—most recently, from the GAO study of EPA’s laboratory network published in July 2011.

The report from GAO identifies a number of challenges to managing federal laboratories government-wide.⁴ One major challenge is the increasing cost of maintaining the portfolio of aging federal laboratory facilities. A second major challenge is reducing the energy consumed by laboratory facilities.

These facilities consume more energy and emit more greenhouse gases per square foot of floor space than virtually any other type of facility—from five to ten times the amount of energy than office buildings with an equivalent footprint.⁵ EPA recognizes that improving the energy and environmental “footprint” of federal laboratory facilities is important for our nation’s strategy to achieve energy independence, improve the environment, and reduce consumption of natural resources.⁶ In fact, Executive Order 13514 requires that each federal agency prepare a strategic sustainability plan to guide its efforts to ‘green’ its facilities to improve their effectiveness and efficiency.⁷

The GAO report on EPA’s laboratory network recommends that the Administrator of EPA take seven actions to improve the cohesion and management of the Agency’s laboratories. In general, EPA agrees with these GAO recommendations. EPA’s Deputy Administrator Bob Perciasepe communicated EPA’s response to the GAO recommendations in a July 2011 letter, which GAO included in its report.⁸ Here are highlights of the seven GAO recommendations and EPA’s responses:

- 1) Develop an overarching issue-based planning process that reflects the collective goals, objectives, and priorities of the laboratories’ scientific activities.

EPA will consult with stakeholders to determine the best approach to develop an overarching planning process and system.

2) Establish a top-level science official with the authority and responsibility to coordinate, oversee, and make management decisions regarding major scientific activities throughout the agency, including the work of all program, regional, and research laboratories.

EPA will expand the authority and responsibility of the Agency's Science Advisor to coordinate, oversee, and make recommendations to the Administrator regarding major scientific activities throughout the agency, including the work of all program, regional, and ORD laboratories. EPA's Science and Technology Policy Council (STPC) will assist the Science Advisor with these new responsibilities. This Council brings together senior leaders from EPA's programs, regions, and laboratories to address the Agency's high priority science-policy issues.

3 & 4) Improve the Agency's physical infrastructure and real property planning and investment decisions by: managing individual laboratory facilities as part of an interrelated portfolio of facilities, and ensuring that facility "master plans" are up-to-date and that analysis of the use of space is based on objective benchmarks.

EPA will strengthen its master planning process—which the Agency believes overall has kept the Agency's laboratories and their support buildings in good condition. Over the next 3 - 5 years the Agency plans to: upgrade and streamline the master planning process; update the plans as required; reinforce the current master planning portfolio perspective; and strengthen the ties between the current annual and 5-year Building &

Facility *call letter* process and the master plans.

5) Improve the completeness and reliability of operating-cost and other data needed to manage its real property and report to external parties.

EPA will continue to refine the master planning process to upgrade and validate its internal operating costs and other metrics. EPA is also reviewing options for improving data reliability and completeness for the remaining labs within its laboratory enterprise.

6) Develop a comprehensive workforce planning process for all laboratories that is based on reliable workforce data and reflects current and future agency needs in the overall number of federal and contract employees, skills, and deployment across all laboratory facilities.

EPA will develop a workforce planning process for its laboratory network as part of a broader Agency workforce planning process.

7) If the EPA Administrator determines that another independent study of EPA laboratories is needed, then the Agency should include—within the charge questions for this study—alternate approaches for organizing the laboratory workforce and infrastructure. These alternate approaches should include options for sharing and consolidation.

The FY 2012 President's Budget includes funds to conduct a study of EPA's laboratory enterprise which considers the long-term research needs of the Agency while seeking opportunities to promote efficiencies and reduce the

Agency's physical footprint. . This study will be conducted by an independent expert body. EPA will request that this external body consider information in this GAO report and alternate approaches for organizing the workforce and infrastructure of EPA's laboratory network, and explore options for consolidation.

CONCLUSION

In conclusion, I believe that we have a strong tradition of excellence in science at EPA—and that we are poised to build upon this tradition and take environmental protection to the next level. EPA scientists and engineers, as members of, and in collaboration with, the broader scientific community, are applying scientific innovation to spark the scientific and technological breakthroughs that lie just over the horizon—emission-free vehicles; smart phone apps that provide key environmental and health information; benign, “green” chemical processes and products; and water recycling and reuse technologies. Agency scientists, researchers, and their partners, are working toward the vision of a sustainable future.

I look forward to working with the Committee to address current and emerging environmental problems that will help our Agency protect the environment and human health. Thank you for the opportunity to appear before you today.

REFERENCES

¹ *Ibid.*, page 1.

² Letter from EPA Deputy Administrator Robert Perciasepe to David C. Trimble, Acting Director Natural Resources and the Environment, U.S. GAO, July 11, 2011.

³ Letter from EPA Deputy Administrator Robert Perciasepe to David C. Trimble, Acting Director Natural Resources and the Environment, U.S. GAO, July 11, 2011.

⁴ See the GAO High Risk Series on Federal Real Property, beginning with U.S. GAO-03-122, January 30, 2003.

⁵ Letter from EPA Deputy Administrator Robert Perciasepe to David C. Trimble, Acting Director Natural Resources and the Environment, U.S. GAO, July 11, 2011, pages 1-2.

⁶ *"Laboratories for the 21st Century: Program Overview."* U.S. Environmental Protection Agency and Federal Energy Management Program. January 2004.

⁷ Executive Order 13514 of 2009. Federal Register Vol 74 No 194, 52117 -52127. October 8, 2009

⁸ This letter appears as Appendix IV (pages 39 – 45) in the GAO report cited in the first footnote.