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News Release

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Nanotechnology Requires Immediate Changes in EPA Report Lays Out Steps to Address “The Next Industrial Revolution”

WASHINGTON –Regulatory oversight of nanotechnology is urgently needed and the Environmental Protection Agency (EPA) should act now, reports a new study released today. In ***EPA and Nanotechnology: Oversight for the 21st Century***, former EPA assistant administrator for policy, planning and evaluation, J. Clarence (Terry) Davies, provides a roadmap for a new EPA to better handle the challenges of nanotechnology. New nanomaterials and nanotechnology products are entering the market each week, and an adequate oversight system is necessary to identify and minimize any adverse effects of nano materials and products on health or the environment. Davies’ report sets out an agenda for creating an effective oversight system as nanotechnology advances—the technology that some have hailed as “the next industrial revolution.”

“This new report seeks to encourage EPA, Congress, and others to create an intelligent oversight approach that empowers EPA and promotes investment and innovation in new nanotechnology products and processes,” said David Rejeski, director of the Project on Emerging Nanotechnologies at the Wilson Center (PEN). “As both the chair and ranking minority member of the U.S. House of Representatives Committee on Science and Technology stated last year, ‘Nanotechnology is an area of research that could add billions of dollars to the U.S. economy, but that won’t happen if it is shrouded in uncertainty about its [environmental, health and safety] consequences.’ ”

The report provides a thorough analysis of how nanotechnology can serve as a catalyst for change in EPA and existing regulatory frameworks. It identifies major areas that require transformation within the agency—including science, program integration, personnel, international activities and program evaluation. In addition, Davies’ report spells out more than 25 steps that EPA, Congress, the president, the U.S. National Nanotechnology Initiative and the nanotechnology industry as a whole should take to improve the oversight of nanotechnology. Among the recommendations made are the following:

- EPA should launch its proposed voluntary program to collect nanotechnology risk information and should begin immediately to revise the Toxic Substances Control Act (TSCA) to better deal with nanotechnology.
- EPA and industry should create a joint research institute to conduct scientific research on nanotechnology effects.
- EPA should set up and lead an interagency regulatory coordinating group for nanotechnology oversight.
- Congress should establish a temporary committee in each house to consider options for a nanotechnology oversight mechanism.
- Congress should provide an additional \$50 million each year for research on the health and environmental effects of nanotechnology products and processes.

- Congress should remove constraints that limit EPA's ability to require that companies collect and share necessary data and other information the agency needs to oversee nanotechnology.

Davies discusses the importance of public participation and dialogue throughout this process. He also examines the role of state and local governments.

According to William D. Ruckelshaus, former EPA administrator from 1970 to 1973 and again from 1983 to 1985, who read and issued a statement about Davies' report, "For over thirty years, the EPA has dealt with the impacts of the last industrial revolution—the internal combustion engine, steam-generated electricity, and basic chemical synthesis. Today, another industrial revolution is occurring. It is being driven by nanotechnology and its convergence with information technology and biotechnology. Nanotechnology holds tremendous potential—for breakthroughs in medicine, in the production of clean water and energy, and in computers and electronics. It may be the single most important advance of this new century. But with its ability to fundamentally change the properties of matter, nanotechnology also may pose both the greatest challenge and biggest opportunity for EPA in its history. EPA needs to seriously consider the constructive and thoughtful changes that Davies puts forward in his report."

"This report should stimulate a broad dialogue about a next-generation oversight system that will work with nanotechnologies and the technologies that follow," said PEN's Rejeski. "*EPA and Nanotechnology* provides a clear starting point for a discussion about environmental protection in the 21st century."

EPA and Nanotechnology: Oversight for the 21st Century was commissioned by the Project on Emerging Nanotechnologies, a partnership between the Woodrow Wilson International Center for Scholars and The Pew Charitable Trusts. The report is available online at www.nanotechproject.org.

About Nanotechnology

Nanotechnology entails the measurement, prediction and construction of materials on the scale of atoms and molecules. A nanometer is one-billionth of a meter, and nanotechnology typically deals with particles and structures larger than 1 nanometer, but smaller than 100 nanometers. To put this into perspective, the width of a human hair is approximately 80,000 nanometers. A nanometer-size particle is about three times the diameter of a gold atom and a very small fraction of the size of a living cell. Such a particle can be seen only with the most powerful microscopes.

J. Clarence (Terry) Davies is a senior advisor at the Project on Emerging Nanotechnologies and senior fellow at Resources for the Future. Considered one of the foremost authorities on environmental policy, he co-authored the plan that created the U.S. Environmental Protection Agency (EPA). He later served as the EPA's Assistant Administrator for Policy, Planning and Evaluation. As a senior staff member of the Council on Environmental Quality, Davies authored the original version of what became the Toxic Substances Control Act (TSCA).

William D. Ruckelshaus served as the EPA's first administrator (1970-1973) and in a second term as EPA administrator (1983-1985). Mr. Ruckelshaus is currently a strategic director of Madrona Venture Group.

The **Project on Emerging Nanotechnologies** is an initiative launched by the **Woodrow Wilson International Center for Scholars** and **The Pew Charitable Trusts** in 2005. It is dedicated to helping business, government and the public anticipate and manage possible health and environmental implications of nanotechnology. For more information about the project, log on to www.nanotechproject.org.

Nanotechnology May Pose EPA's Greatest Challenge and Opportunity

STATEMENT BY WILLIAM D. RUCKELSHAUS
First Administrator (1970-1973) and Former Administrator (1983-85),
U.S. Environmental Protection Agency

For over thirty years, the Environmental Protection Agency (EPA) has dealt with the impacts of the last industrial revolution and the technologies that were a key part of that transformation at the end of the 19th century – the internal combustion engine, steam-generated electricity, and basic chemical synthesis.

Today, another industrial revolution is occurring. It is being driven by nanotechnology and its convergence with information technology and biotechnology. Nanotechnology holds tremendous potential—for breakthroughs in medicine, in the production of clean water and energy, and in computers and electronics. It may be the single most important advance of this new century. Nanotechnology, with its ability to fundamentally change the properties of materials, may pose both the greatest challenge and biggest opportunity for EPA in its history.

The very timely report issued today by the Project on Emerging Nanotechnologies, ***EPA and Nanotechnology: Oversight for the 21st Century***, by former EPA Administrator for Policy, J. Clarence Davies, takes a close look at EPA's current ability to address nanotechnology oversight. It analyzes existing EPA statutory authorities and appropriately questions whether they are sufficient for dealing with nanotech. Davies offers valuable recommendations for reforming the regulations, including and focusing on the Toxic Substances Control Act (TSCA), which he helped draft.

The report's conclusion, that nanotechnology may serve as just the right catalyst to revitalize the EPA, is backed up with in-depth analysis and discussion. Faced with globalization and emerging 21st century issues, the EPA must change to meet these new challenges.

Nanotechnology brings with it much uncertainty about potential risks to human health and the environment. In order to prevent adverse harm and to ensure that the benefits promised by nanotechnology are realized, EPA needs to seriously consider the constructive and thoughtful changes that Davies puts forward in his report.

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