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Former EPA Official Says New Oversight and Resources Needed for Nanotechnology

WASHINGTON—The Project on Emerging Nanotechnologies at the Woodrow Wilson International Center for Scholars today released a new report by one of the country's foremost authorities on environmental research and policy, which examines the strengths and weaknesses of the current regulatory framework for nanotechnology and calls for a new approach to nanotechnology oversight.

Managing the Effects of Nanotechnology, authored by J. Clarence (Terry) Davies, former assistant administrator of the U.S. Environmental Protection Agency (EPA) during the George H.W. Bush Administration, argues that better and more aggressive oversight and new resources are needed to manage the potential adverse effects of nanotechnology and promote its continued development.

"It is the right time to come up with the right regulatory framework for nanotechnology—a framework that encourages initiative and innovation, while also protecting the public and the environment," Davies said. "The ideas presented in this report challenge business and government to work together to nurture and encourage nanotechnology and to anticipate and address its adverse effects."

"Nanotechnology holds tremendous potential—for improvements in health care, the production of clean water and energy, and continued advances in our IT infrastructure," said William K. Reilly, former EPA Administrator, commenting on the report. "But nanotechnology can only flourish if industry and government are committed to identifying and managing the possible risks to workers, consumers, and the environment. Davies' analysis of the federal regulatory system and recommendations should spark a necessary dialogue—among business, government and citizen groups—about how to move forward as nanotechnology develops."

"Reaching consensus on nanotechnology regulation that encourages economic innovation and environmental stewardship will not be easy," Davies acknowledges, "but it is a challenge that we cannot ignore."

Dr. Davies argues that some current regulatory approaches may work for nanotechnology applications. "The Food and Drug Administration (FDA) has the authority it needs to review and regulate nanotechnology applications in the areas of drugs and biomedical devices," Davies said. "But most of the existing applicable programs are seriously flawed, lack resources, and require new thinking and funding."

The report analyzes the strengths and weaknesses of existing laws that apply to nanotechnology and outlines provisions that a new law might contain.

“Nanotechnology is still in its infancy, presenting a clear opportunity for us to ‘get it right’ from the start,” said David Rejeski, director of the Project on Emerging Nanotechnologies. The Project is an initiative of the Wilson Center and The Pew Charitable Trusts.

“As we continue to learn the value and benefits that nanotechnology presents,” noted Rejeski, “it will be important for us to gain the commitment from industry and government to successfully position nanotechnology as the next big economic driver. If nanotechnology is to succeed, there needs to be a dialogue around the proactive approach Davies suggests. Government, business and citizen groups need to exchange views and discuss options to assure the American public that as nanotechnology matures, any adverse health and environmental effects will be identified and prevented or controlled.”

“There also needs to be more in-depth public policy analysis that is informed by an understanding of the risks posed by nanotechnologies and how products are moving from laboratories to factories, and into the marketplace. The Project on Emerging Nanotechnologies is committed to helping facilitate the necessary dialogue around nanotechnology and to providing sound policy choices,” according to Rejeski.

The market opportunity for nanotechnology is substantial. The National Science Foundation predicts that the global marketplace for goods and services using nanotechnologies will grow to \$1 trillion by 2015. The U.S. invests approximately \$3 billion annually in nanotechnology research and development, which accounts for approximately one-third of the total public and private sector investments worldwide.

Nanotechnology is the ability to measure, see, manipulate and manufacture things usually between 1 and 100 nanometers. A nanometer is one billionth of a meter; a human hair is roughly 100,000 nanometers wide.

“Dr. Davies has offered all who are interested in the benefits and risks of nanotechnology good, thoughtful questions to ponder and a series of options to consider,” said Jim O’Hara, director of policy initiatives and the Health and Human Services program at The Pew Charitable Trusts. “Such options and ensuing policy dialogue are essential to ensure that society manages the potential adverse effects of nanotechnology and reaps its tremendous benefits.”

The Center formally will release the report at a briefing today from 10:00 – 11:00 a.m. EST at the Woodrow Wilson International Center for Scholars, located at 1300 Pennsylvania Avenue, N.W., Washington, D.C., 5th floor conference room.

The briefing will be webcast live at www.wilsoncenter.org.

Terry Davies’ report, *Managing the Effects of Nanotechnology*, is available online at www.nanotechproject.org.

J. Clarence (Terry) Davies is a senior advisor at the Project on Emerging Nanotechnologies and senior research fellow at Resources for the Future. He is considered one of the foremost authorities on environmental research and policy. He co-authored the plan that created the U.S. Environmental Protection Agency (EPA) and 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).

The **Project on Emerging Nanotechnologies** is an initiative launched by the Wilson Center 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.

The Pew Charitable Trusts is a national charitable organization serving the public interest by informing the public, advancing policy situations and supporting civic life. Based in Philadelphia, with an office in Washington, D.C., the Trusts will invest \$204 million in fiscal year 2006 to provide organizations with fact-based research and practical solutions for challenging issues.

The **Woodrow Wilson International Center for Scholars** is the living, national memorial to President Wilson established by Congress in 1968 and headquartered in Washington, D.C. The Center establishes and maintains a neutral forum for free, open, and informed dialogue. It is a nonpartisan institution, supported by public and private funds and engaged in the study of national and international affairs.

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STATEMENT BY WILLIAM K. REILLY
Founding Partner, Aqua International Partners
Administrator, Environmental Protection Agency (1989-1993)
January 11, 2006

J. Clarence (Terry) Davies's report, *Managing the Effects of Nanotechnology*, probes the frontier of environmental policy. Davies's analysis of the federal regulatory system provides an excellent roadmap that will help policymakers identify potential oversight gaps and develop better ways to manage nanotechnology's impacts, both now and in the future. His recommendations should spark a necessary dialogue—among business, government, and citizen groups—about how to move forward as nanotechnology develops over the coming years.

A similar rational and thoughtful guide to the public policy issues presented by biotechnology would possibly have helped us better manage that innovation. Davies' report can help us get this right.

Nanotechnology holds tremendous potential—for improvements in health care, the production of clean water and energy, and for continued advances in our IT infrastructure. It may be the single most important advance of our age. But nanotechnology can only flourish if industry and government are committed to identifying and managing any possible risks to workers, consumers, and the environment. Government oversight needs to be done in a way that is transparent, efficient, and predictable, both for large and small companies as well as for those who invest in these businesses. Davies's report presents the first systematic analysis into how such a balance can be achieved.