Report Faults U.S. Strategy for Nanotoxicology Research

The U.S. government lacks an effective plan for ensuring the safety of nanotechnology, a new report by the National Research Council (NRC) concludes. The report, released last week, finds that the current plan for coordinating federal research on environmental, health, and safety (EHS) risks of nanotechnology amounts to an ad hoc collection of research priorities from the 25 federal agencies that make up the U.S. National Nanotechnology Initiative (NNI), which coordinates federal nanotech programs. What’s needed, it argues, are an overall vision and a plan for how to get there and to come up with the money to do so.

“The current plan catalogs nano-risk research across several federal agencies, but it does not present an overarching research strategy needed to gain public acceptance and realize the promise of nanotechnology,” says David Eaton, an environmental and occupational health scientist at the University of Washington, Seattle, who chaired the committee that wrote the report.

The NRC report marks new movement in what has been a long-running tug of war between the Bush Administration and its critics in Congress, academia, and non-governmental organizations over how best to ensure nanotechnology’s safety. Administration officials have maintained that the agencies funding the research—such as the National Institutes of Health and the Environmental Protection Agency—are best qualified to set their priorities and budgets to ensure nanotech safety. Critics counter that a point person is needed to ensure that coordination takes place. The House Science and Technology Committee passed a bill earlier this year reauthorizing NNI and pushing the current report does not present an overarching research strategy needed to gain public acceptance and realize the promise of nanotechnology,” says David Eaton, an environmental and occupational health scientist at the University of Washington, Seattle, who chaired the committee that wrote the report.

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much of the critics’ agenda. But the Administration opposed installing a nano overseer, among other things. The bill was shunted aside by the election and the economic chaos this fall and never came to a vote.

The new report is something of a vindication, says Andrew Maynard, chief scientist at the Woodrow Wilson International Center for Scholars’ Project on Emerging Nanotechnologies in Washington, D.C. “It shows we haven’t been out on a limb for the last few years,” Maynard says. Maynard has long criticized coordination of EHS research under NNI and served on the NRC panel that wrote the report. “Now the government needs to decide who needs to do what risk research and where the money is going to come from.”

The current report does not assess the potential toxicity of nanomaterials, which are now found in more than 800 commercial products. Rather, last year, the U.S. National Nanotechnology Coordination Office (NNCO), which oversees day-to-day coordination of nanotechnology programs between U.S. federal agencies, asked NRC to evaluate its current EHS research strategy. A statement from NNCO called the development of a broader national strategy “a worthy goal.” However, it says the report’s call for reengineering how the federal government oversees NNI “was not within the scope of the NRC panel review, and would require extensive review and analysis and Congressional oversight.”

The back and forth will resume next year. Bart Gordon (D–TN), who chairs the House Science and Technology Committee, said last week that he will reintroduce the bill to reauthorize NNI, which will again put these issues front and center. The key will be whether the new Obama Administration sides with its predecessors or with their critics.

—ROBERT F. SERVICE

From the Science Policy Blog

Last month, Science launched a policy blog, ScienceInsider, providing news and analysis on science policy around the world. Postings include breaking news covered more in depth in the magazine as well as news that doesn’t appear in print:

Museum layoffs prompt backlash. Archaeologists around the world are condemning the University of Pennsylvania Museum of Archaeology and Anthropology for planning to lay off 18 researchers, in particular one of the world’s leading archaeobotanists, Naomi Miller, who has been in the field for 30 years. News of the layoffs, announced late last month, has ricocheted through the global archaeology community.… Director Richard Hodges says the museum will find money to retain the scholars …

Scientists seeking stimulus. A collection of U.S. research universities is making the case for science to be included in legislation aimed at reviving the moribund economy. In a letter to President-elect Barack Obama, the 62-member Association of American Universities (AAU) proposes $2.7 billion in immediate spending on academic buildings, scientific equipment, and young researchers. AAU joins a long line of interest groups hoping to tap into an economic stimulus package …

Bioethics guidance from Rome. The Vatican has issued a new document addressing the morality of various developments in biotechnology, including in vitro fertilization, germ-line gene therapy, and so-called altered nuclear transfer (ANT). Dignitas Personae, issued at a Vatican press conference 12 December, is mainly a clarification of previously known positions. It does take a cautious line on ANT, which at least one Catholic bishop had endorsed. The technique was developed to find a way to produce stem cells from cloning without ever producing a viable embryo. Scientists have attempted to inactivate certain genes required for embryo development so that instead of producing an embryo, they produce disorganized cells—which nevertheless can be used to make stem cell lines. The document, however, takes a dim view of the effort …