GAO

Testimony

Before the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

HOMELAND SECURITY

Title III of the Homeland Security Act of 2002

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Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss several aspects of the Homeland Security Act of 2002. The proposed legislation would bring many federal entities with homeland security responsibilities into a Department of Homeland Security in an effort to mobilize and focus assets and resources. Title III of the proposed legislation would task the new department with developing national policy for and coordinating the federal government’s research and development efforts for responding to chemical, biological, radiological, and nuclear threats. It would also transfer to the new department responsibility for certain research and development programs and other activities, including those of the Department of Energy (DOE).¹

In my testimony today, which focuses on Title III of the proposed legislation, I will address (1) the need for clarification of certain roles and responsibilities of the new department and (2) our observations on transferring certain activities of DOE to the new department. Our testimony is based largely on our previous and ongoing work on national preparedness issues,² as well as a review of the proposed legislation.

In concept and if properly implemented, this proposed legislation could lead to a more efficient, effective and coordinated research effort that would provide technology to protect our people, borders, and critical infrastructure. However, the legislation does not address many issues that could impact the Department of Homeland Security’s potential effectiveness. For example, while it is tasked with coordinating federal “civilian” research, the new department will also need to coordinate with the Department of Defense and the intelligence agencies that conduct research and development efforts designed to detect and respond to weapons of mass destruction. Further, the proposed legislation does not specify that a critical role of the new department will be to establish collaborative relationships with programs at all levels of government and to develop a strategic plan for research and development to implement the national policy it is charged with developing. In addition, the proposed legislation is not clear on the role of the new department in setting standards for the performance and interoperability of new technologies so

¹ Sections 301, 302, and 303 of the President’s proposed legislation primarily cover these changes.

² See “Related GAO Products” at the end of this testimony.
that users can be confident that the technologies they are purchasing will perform as intended. Lacking this, the Department of Homeland Security may not be able to efficiently and effectively focus the research and development resources of the federal government to address the most important terrorist threats.

Regarding the transfer of certain activities of DOE to the new department, we believe that some of the transfers proposed in the legislation are appropriate, such as DOE's nuclear threat assessment program and the Environmental Measurements Laboratory (EML). However, we are concerned that the transfer of certain DOE research and development activities may complicate research currently being performed to accomplish multiple purposes. For example, some research programs, such as Lawrence Livermore National Laboratory's advanced scientific computing research program, have broad missions such as ensuring the reliability of our nuclear weapons stockpile that are not easily separated into homeland security research and research for other purposes. Furthermore, in some cases, such as the energy security and assurance program activities at DOE, the legislation does not clearly indicate exactly what research would be transferred.

In response to global challenges the government faces in the coming years, the creation of a Department of Homeland Security provides a unique opportunity to create an extremely effective and performance-based organization that can strengthen the nation's ability to protect its borders and citizens against terrorism. There is likely to be considerable benefit over time from restructuring some of the homeland security functions, including reducing risk and improving the economy, efficiency and effectiveness of these consolidated agencies and programs. Realistically, however, in the short term, the magnitude of the challenges that the new department faces will clearly require substantial time and effort, and will take additional resources to make it fully effective.

Recently, we testified that Congress should consider several very specific criteria in its evaluation of whether individual agencies or programs
should be included or excluded from the proposed department.\(^3\) Those criteria include the following:

- **Mission Relevancy:** Is homeland security a major part of the agency or program mission? Is it the primary mission of the agency or program?
- **Similar Goals and Objectives:** Does the agency or program being considered for the new department share primary goals and objectives with the other agencies or programs being consolidated?
- **Leverage Effectiveness:** Does the agency or program being considered for the new department create synergy and help to leverage the effectiveness of other agencies and programs or the new department as a whole? In other words, is the whole greater than the sum of the parts?
- **Gains Through Consolidation:** Does the agency or program being considered for the new department improve the efficiency and effectiveness of homeland security missions through eliminating duplications and overlaps, closing gaps and aligning or merging common roles and responsibilities?
- **Integrated Information Sharing/Coordination:** Does the agency or program being considered for the new department contribute to or leverage the ability of the new department to enhance the sharing of critical information or otherwise improve the coordination of missions and activities related to homeland security?
- **Compatible Cultures:** Can the organizational culture of the agency or program being considered for the new department effectively meld with the other entities that will be consolidated? Field structures and approaches to achieving missions vary considerably between agencies.
- **Impact on Excluded Agencies:** What is the impact on departments losing components to the new department? What is the impact on agencies with homeland security missions left out of the new department?

Federally sponsored research and development efforts, a key focus of the proposed legislation, enhance the government’s capability to counter chemical, biological, radiological, and nuclear terrorist threats by providing technologies that meet a range of crisis- and consequence-management needs. Research and development efforts for these technologies, however, can be risky, time consuming, and costly. Such efforts also may need to address requirements not available in off-the-shelf

products. These factors limit private and public research and development efforts for these technologies, necessitating federal government involvement and collaboration.

Many federal agencies and interagency working groups have recently deployed or are conducting research on a variety of technologies to combat terrorism. Recently deployed technologies include a prototype biological detection system used at the Salt Lake City Olympics and a prototype chemical detection system currently being used in Washington D.C.’s metro system that was developed by DOE. Technologies under development include new or improved vaccines, antibiotics, and antivirals being developed by the National Institutes of Health. In addition, the Centers for Disease Control and Prevention, in collaboration with other federal agencies, are conducting research on the diagnosis and treatment of smallpox. Moreover, the Food and Drug Administration is investigating a variety of biological agents that could be used as terrorist weapons. Other federal agencies such as the Department of Defense and intelligence community are engaged in similar research and development activities, such as research on technology to protect combatants from chemical and biological agents.

Roles and Responsibilities of the Proposed Department of Homeland Security Need to be Clarified

Certain roles and responsibilities of the Department of Homeland Security in managing research and development need to be clarified. Under the proposed legislation, the Department of Homeland Security would be tasked with developing national policy for and coordinating the federal government’s civilian research and development efforts to counter chemical, biological, radiological, and nuclear threats. However, while coordination is important, it will not be enough. Federal agency coordination alone may not address the specific needs of state and local governments, such as those of local police and fire departments that will use this technology. In our view, the proposed legislation should also specify that a role of the new department will be to develop collaborative relationships with programs at all levels of government—federal, state, and local—to ensure that users’ needs and research efforts are linked. We also believe the legislation should be clarified to ensure that the new department would be responsible for the development of a single national research and development strategic plan. Such a plan would help to ensure that research gaps are filled, unproductive duplication is minimized, and individual agency plans are consistent with the overall goals. Moreover, the proposed legislation, as written, is unclear about the new department’s role in developing standards for the performance and interoperability of new technologies to address terrorist threats. We
believe the development of these standards must be a priority of the new department.

**Shortfalls in Current Research Coordinating Efforts**

The limitations of existing coordination and the critical need for a more collaborative, unified research structure has been amply demonstrated in the recent past. We have previously reported that while agencies attempt to coordinate federal research and development programs in a variety of ways, breakdowns occur, leading to research gaps and duplication of effort. Coordination is limited by compartmentalization of efforts because of the sensitivity of the research and development programs, security classification of research, and the absence of a single coordinating entity to ensure against duplication. For example, the Department of Defense’s Defense Advanced Research Projects Agency was unaware of U.S. Coast Guard’s plans to develop methods to detect biological agents on infected cruise ships and, therefore, was unable to share information on its potentially related research to develop biological detection devices for buildings.

**Opportunities to Improve Existing Legislative Proposal**

Although the proposed legislation states that the new department will be responsible for developing national policy and coordinating research and development, it has a number of limitations that could weaken its effectiveness. First, the legislation tasks the new department with coordinating the federal government’s “civilian efforts” only. We believe the new department will also need to coordinate with the Department of Defense and the intelligence agencies that conduct research and development efforts designed to detect and respond to weapons of mass destruction. The proposed transfer of some DOE research and development efforts to the Department of Homeland Security also does not eliminate potential overlaps, gaps, and opportunities for collaboration. Coordination will still be required within and among the 23 DOE national laboratories. For example, our 2001 report noted that two offices within Sandia National Laboratory concurrently and separately worked on similar thermal imagery projects for two different federal agencies, rather than consolidating the requests and combining resources. In addition, local

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police and fire departments and state and local governments possess practical knowledge about their technological needs and relevant design limitations that should be taken into account in federal efforts to provide new equipment, such as protective gear and sensor systems. To be most effective, the new department will have to develop collaborative relationships with all these organizations to facilitate technological improvements and encourage cooperative behavior.

The existing proposal leaves a number of problems unaddressed as well. For example, while the proposed legislation is clear that the position of Undersecretary for Chemical, Biological, Radiological, and Nuclear Countermeasures will be responsible for developing national policy for federal research and development, there is no requirement for a strategic plan for national research and development that could address coordination, reduce potential duplication, and ensure that important issues are addressed. In 2001, we recommended the creation of a unified strategy to reduce duplication and leverage resources, and suggested that the plan be coordinated with federal agencies performing research as well as with state and local authorities. The development of such a plan would help to ensure that research gaps are filled, unproductive duplication is minimized, individual agency plans are consistent with the overall goals, and a basis for assessing the success of the research and development efforts.

Also, while the legislation calls for the establishment of guidelines for state and local governments to implement countermeasures for chemical, biological, radiological, and nuclear terrorism threats, it is not clear to us what these guidelines are to entail. In this regard, we believe it will be important to develop standards for the performance and interoperability of new technologies, something that the legislation does not specifically address. For example, we had discussions with officials from the Utah State Department of Health who prepared for the 2002 Winter Olympic Games. These officials said that local police and fire departments had been approached by numerous vendors offering a variety of chemical and biological detection technology for use during the Olympics. However, these state and local officials were unsure of the best technology to purchase and could find no federal agency that would provide guidance on the technologies. They told us that if the science backing up the

\[^{5}\text{GAO-01-822.}\]
technology is poor or the data the technology produces are faulty, the technology can do more harm than good.

Further, the legislation would allow the new department to direct, fund, and conduct research related to chemical, biological, radiological, nuclear, and other emerging threats on its own. This raises the potential for duplication of efforts, lack of efficiency, and an increased need for coordination with other departments that would continue to carry out relevant research. We are concerned that the proposal could result in a duplication of capacity that already exists in the current federal laboratories.

Transferring Certain Activities of DOE to the Department of Homeland Security Raises Concerns

Under Title III of the proposed legislation, a number of DOE programs and activities would be transferred to the new department. Some of these transfers seem appropriate. However, in other cases we are concerned about the transfers because of the potential impact on programs and activities that currently support missions beyond homeland security. Finally, in some cases, transfers proposed by the legislation are not laid out in enough detail to permit an assessment. We discuss each of these groups of transfers below.

Transfer of Certain DOE Activities Seems Appropriate

Title III proposes to transfer to the Department of Homeland Security certain DOE activities that seem appropriate. Specifically, Title III proposes to transfer the nuclear threat assessment program and activities of the assessment, detection, and cooperation program in DOE’s international Materials, Protection, and Accountability Program (MPC&A). The threat assessment program and activities, among other things, assesses the credibility of communicated nuclear threats, analyzes reports of illicit nuclear material trafficking, and provides technical support to law enforcement agencies regarding nuclear material/weapons. We would agree with officials of the Office of Nuclear Threat Assessment and Detection who view the potential transfer to the Department of Homeland Security positively. We base our agreement on the fact that, according to officials from DOE, the transfer would not have a negative impact on the rest of the MPC&A program because the functions are separate and distinct. Further, the transfer could tie the office in more closely with the other agencies they work with, such as Customs.

Another program that we believe could be appropriately transferred to the new department is the Environmental Measurements Laboratory (EML), located in New York City. This government-operated laboratory operates
under the Office of Science and Technology in the Office of Environmental Management at DOE. EML provides program management, technical assistance and data quality assurance for measurements of radiation and radioactivity relating to environmental restoration, global nuclear nonproliferation, and other priority issues for DOE, as well as for other government, national and international organizations. According to the laboratory director, the laboratory is completely in favor of the transfer to the proposed Department of Homeland Security and would fit in very well with it. We believe the transfer is appropriate because, unlike some other transfers proposed under Title III, the entire laboratory would be transferred. While it is a multiprogram laboratory serving several elements of DOE as well as other organizations, serving multiple clients could continue under a “work for others” contracting arrangement whether the laboratory was housed within DOE or the Department of Homeland Security.

Some Proposed Transfers

| Title III proposes transferring the parts of DOE’s nonproliferation and verification research and development program that conduct research on systems to improve the nation’s capability to prepare for and respond to chemical and biological attacks. The legislation also proposes transferring a portion of the program’s proliferation detection research. This includes work on developing sensors to help the Coast Guard monitor container shipping at ports of entry. These proposed transfers raise concerns because much of the program’s research supports both homeland security and international nonproliferation programs. These programs have broad missions that are not easily separated into homeland security research and research for other purposes and the proposed legislation is not clear how these missions would continue to be accomplished. Furthermore, we are concerned that the legislation does not clearly indicate whether only the programmatic management and funding would move or also the scientists carrying out the research. Moving the scientists may not be prudent. This is because the research is currently conducted by multiprogram laboratories that employ scientists skilled in many disciplines who serve many different missions and whose research benefits from their interactions with colleagues within the laboratory.

In addition, we believe transferring control of some scientists within the DOE national laboratories to the Department of Homeland Security could complicate an already dysfunctional DOE organizational structure by blurring lines of authority and accountability. DOE carries out its diverse missions through a network of multilayered field offices that oversee activities at the national laboratories and other DOE facilities widely
dispersed throughout the country. The structure inherited by DOE and the different program cultures and management styles within that structure have confounded DOE’s efforts to develop a more effective organization. Transferring control of scientists within the national laboratories could complicate the accomplishment of homeland security missions and DOE’s other missions by adding additional lines of authority and accountability between the laboratory scientists, DOE, and the Department of Homeland Security. One alternative would be for the new department to contract with DOE’s national laboratories to conduct the research under “work for others” contracts. This would allow for direct contact between the Department of Homeland Security and the laboratories conducting the research without creating a new bureaucracy. Many federal agencies such as the Department of Defense and intelligence agencies currently use this contracting arrangement with the national laboratories.

We have similar concerns about transferring two other activities to the new department:

- The advanced scientific computing research program and activities at Lawrence Livermore National Laboratory are developing supercomputer hardware and software infrastructure aimed at enabling laboratory and university researchers to solve the most challenging scientific problems at a level of accuracy and detail never before achieved. Research conducted under the program include; designing materials atom-by-atom, revealing the functions of proteins, understanding and controlling plasma turbulence, designing new particle accelerators and modeling global climate change. This program is an integral part of DOE’s efforts to ensure that the nuclear weapons stockpile is safe and secure. This program may be difficult to separate into homeland security research and research for other purposes.

- The Life Sciences Division within the DOE Office of Science’s Biological and Environmental Research Program manages a diverse portfolio of research to develop fundamental biological information and to advance technology in support of DOE’s missions in biology, medicine, and the environment. For example, it is determining the whole genome sequences of a variety of infectious bacteria, including anthrax strains—a first step toward developing tests that can be used to rapidly identify their presence in the environment.

In both of these instances, the programs serve multiple missions. These dual-purpose programs have important synergies that we believe should be maintained. We are concerned that transferring control over these programs to the new department has the potential to disrupt some programs that are critical to other DOE missions, such as the reliability of
our nuclear weapons. We do not believe that the proposed legislation is sufficiently clear on how both the homeland security and these other missions would be accomplished.

Transfer of Some Activities Is Unclear

The details of two other transfers proposed in the legislation are unclear. First, Title III would transfer the intelligence program activities at Lawrence Livermore National Laboratory. These intelligence activities are related to the overall program carried out by DOE's Office of Intelligence. The Office of Intelligence gathers information related to DOE's missions—energy, nuclear weapons, nuclear proliferation, basic science, radiological research and environmental cleanup. To support this overall intelligence program, Lawrence Livermore National Laboratory, like other weapons laboratories, conducts intelligence activities. At Lawrence Livermore, the “Z” division conducts these activities and has special intelligence expertise related to tracking the nuclear capabilities of countries other than Russia and China. Importantly, the “Z” division receives funding from other DOE programs and/or offices as well as funding from other federal agencies (Department of Defense, Federal Bureau of Investigation, Central Intelligence Agency, etc.). According to officials at DOE Headquarters and Lawrence Livermore National Laboratory, only about $5 million of the division’s $30-50 million budget comes from DOE’s Office of Intelligence. These officials said the transfer would most likely affect only the $5 million that DOE’s Office of Intelligence directly provides to the laboratory, but this is not clear in the proposed legislation. As with other DOE programs discussed in this testimony, the staff that carry out these activities are contractor employees and it is not clear how they would be transferred to the Department of Homeland Security. Moreover, DOE headquarters and other laboratories also have a role in intelligence, and the legislation does not propose to transfer any of their intelligence functions.

Another area of Title III where the details are unclear is the transfer of “energy security and assurance program activities.” These activities are carried out by the Office of Energy Assurance, which was created in November 2001 to work with state and local government and industry to strengthen the security of the United States through the application of science and technology to improve the reliability and security of the national energy infrastructure. The national energy infrastructure includes (1) physical and cyber assets of the nation’s electric power, oil, and natural gas infrastructures; (2) interdependencies among physical and cyber energy infrastructure assets; (3) national energy infrastructure's interdependencies with all other critical national infrastructures. At the
time this testimony was being prepared, DOE and the Office of Homeland Security were trying to define the scope of the proposed transfer.

Mr. Chairman, this completes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have at this time.

**Contact and Acknowledgments**
For further information about this testimony, please contact Gary Jones at (202) 512-3841. Gene Aloise, Seto J. Bagdoyen, Ryan T. Coles, Darryl W. Dutton, Kathleen H. Ebert, Laurie E. Ekstrand, Cynthia Norris and Keith Rhodes also made key contributions to this testimony.
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