

White House proposed moving almost all of Lawrence Livermore National Laboratory from DOE to DHS, along with the lab's proposed FY 2003 budget of \$1.2 billion. In the legislation that went to Congress, only LLNL's advanced scientific computing research program and a limited number of other programs would move to DHS control. A separate DHS facility might be built at the lab, Marburger said, and the DHS work at the lab would become "a center of excellence" that, he added, would "reach out and fund and coordinate research at the other national labs, universities, and other research organizations. The entire R&D program for homeland security would be linked to that site at Lawrence Livermore." The University of California runs the lab for DOE and would also run the DHS facility at the lab, he said.

DOE would also lose pieces of programs that deal with such things as microbial pathogens and nuclear security. The AAAS estimates about \$100 million worth of DOE programs would move to DHS.

The largest R&D transfer would be about \$2 billion in funding that currently goes through HHS to fund bioterrorism-related R&D at NIH and the Centers for Disease Control and Prevention. NIH and CDC employees doing such research would stay where they are, but control of their funding would go to DHS, which would have the authority, in collaboration with HHS, to set the research agenda for antiterrorism work. It is unclear whether Congress will support giving control of NIH and CDC funding to DHS.

Border and Transportation Security. This division is the largest in terms of budget and personnel, but small in R&D spending. It would take over the Transportation Security Administration's aviation security R&D budget of about \$95 million, and another \$35 million in US Coast Guard and Department of Agriculture research money.

Emergency Preparedness and Response. This division, which coordinates federal assistance in response to disasters and domestic attacks, has no R&D programs.

The congressional arguments for centralizing and strengthening science and technology in the new department were bolstered in late June when the National Research Council (NRC) released the lengthy study *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism*. The report makes nearly 150 specific recommendations about how the federal govern-

Components of 'Little Boy' Sold at Auction

The original red arming plug and green safety plug that were built for Little Boy, the first of only two atomic bombs ever used in combat, have been sold at auction for \$167 000. The purchaser was Clay Perkins, a retired physicist in Rancho Santa Fe, California. The sale went ahead despite a last-minute attempt by the US Air Force to block it for national security reasons.

The US B-29 bomber *Enola Gay* dropped Little Boy on Hiroshima, Japan, on 6 August 1945. The 9000-pound bomb had an explosive yield equal to 20 000 tons of TNT, and is believed to have killed more than 140 000 people. Morris Jeppson, the aircraft's weapons test officer, removed the plugs moments before the bomb was released. The green safety plug was used to test the device on the aircraft, and the red arming plug was a spare identical to those used to help trigger the bomb's detonation. They are the only parts of the original bomb that survived. Jeppson kept them as mementos but finally decided to sell them because he wanted to leave some inheritance to his family. "There were four serious bidders for the parts," says Levi Morgan, a director of Butterfields Auctioneers in San Francisco, "but only two went above \$100 000."

The air force argued in federal court that the sale should be stopped for two reasons: It would violate national security, and the plugs were US government property. On 14 June, the air force lost on both counts. "Veterans of every war took home government property," Morgan says, "so it's a bit awkward to try and use this defense now."

Perkins says he wanted the plugs for both historical and personal reasons. "These items are the most significant physical artifacts of the beginning of the atomic age," he points out. "And the dropping of the bomb also sparked my interest in physics." He says he'd be willing to loan the bomb plugs to a museum at a later date but, for now, "they are very safely locked up."

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THE CONTROVERSIAL PLUGS from the Little Boy atomic bomb still carry labels, dated 7 August 1945, written by Morris Jeppson, the *Enola Gay* weapons test officer.

ment should use science and technology to fight terrorism. The day the report was released, Boehlert had its two coauthors testifying before his committee. Lewis Branscomb, a director in the Center for Science and International Affairs at Harvard University's Kennedy School of Government, and Richard Klausner, executive director of global health programs at the Bill & Melinda Gates Foundation, both emphasized that, in the words of the report, "science and technology could be harnessed to prevent or contain terrorist attacks."

An idea book

Marburger later characterized the report as "an idea book, a source book, but not a blueprint." In an interview, Branscomb said, "The point of the report is to persuade [the administration and Congress] that they are going

to have to make some choices and organize to get the R&D done."

Branscomb was critical of the DHS proposal, saying the administration is "creating a \$40 billion department without knowing what it is going to do. I think there is a huge amount at stake because neither the president's bill nor Lieberman's bill is thoroughly satisfactory with respect to the science and technology side of things."

Among the recommendations in the report, Branscomb said two were critical. "If there is a department, it must have a senior technical officer. No corporation would even think about doing this without a senior technical officer," he said. The House Science Committee's creation of a DHS undersecretary for science is an attempt to deal with Branscomb's concern. "Second," he added, "is the creation of a homeland