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National Academy of Science Annual Meeting/Symposium on "Science and Technology for Countering Terrorism"

**National Academy of Sciences' Annual Meeting
Symposium on "Science and Technology for Countering Terrorism"
April 30, 2002**

**The Honorable John H. Marburger, III
Director, Office of Science and Technology Policy**

Thank you for inviting me today to speak on this important topic. President Bush is deeply committed to winning the war against terrorism, and is mobilizing our nation's considerable resources to this end. Among the earliest to respond to the challenge of the events of September 11 were scientists and engineers and physicians who understood that terrorism exploits the knowledge that science toiled to win for mankind's good. And, they understood that any lasting and effective countermeasures would also rely on technical knowledge that only they could provide.

Even before the important academies meeting of September 26, I received many communications from science colleagues offering their assistance to the national effort. The NAS meeting was a symbol of the tremendous support we were likely to receive from the science community. On behalf of the President and the administration, I wish to express my deepest gratitude for this response.

Although I had not been confirmed in my position at the time of the September meeting, I was determined to create within the Administration a means that would link the science community, broadly construed, to the machinery of government to render as effective as possible the advice and assistance that I knew would come. I will tell you what has been accomplished, but first I need to say that much more remains to be done. The reason is that, frankly speaking, a war against terrorism is exceptionally difficult to define. It is moreover a war whose implements are the pervasive structures of every day life, psychological as well as physical, and whose combatants are all the diverse elements of our society.

That is why, in the first instance, the President sought to mobilize the homeland effort through the agencies that administer the normal affairs of the nation. The Office of Homeland Security (OHS) resembles no other executive organization so much as our Office of Science and Technology Policy (OSTP). Like OSTP, OHS seeks to create and administer a national policy that is carried out through the various operational units of government, the so-called line agencies. Like OSTP, OHS is effective to the extent that these agencies, represented in the President's cabinet, are effective in carrying out the missions assigned to them by the President upon the recommendation of its principal, Governor Tom Ridge.

If a new specialized line agency were created to consolidate homeland security functions, it will be difficult to draw the boundaries separating those functions from others that address the daily needs of society. Executive-level coordination will still be required among the existing agencies. That is why a White House office such as the existing OHS will always be required, and why it will always resemble OSTP in its operation.

That is also why it makes sense for OSTP to serve as the technical support organization for the Office of Homeland Security. This arrangement is now embedded in a Memorandum of Understanding which also designates my Assistant Director for Homeland and National Security as the OHS Senior Director for Research and Development. Dr. Penrose Albright, a physicist with experience in national security issues, is filling this position very ably today. He inherits the previous OSTP National Security function together with the new Homeland Security portfolio.

OSTP executes its coordinating function through the National Science and Technology Council, which is an incarnation of the Federal Coordinating Council on Science and Technology or FCCST. Under this umbrella of cabinet officers, OSTP forms interagency committees and working groups spanning the spectrum of science issues that cut across agencies. These include broad deputy-level committees and narrower special groups on issues ranging from genomics to information technology.

I formed such a Committee on Anti-terrorism following the Academies meeting of September 21. Let me explain the context of this action.

I had come to Washington following an interregnum in the science adviser position during which the President turned to the National Academies for advice. The response from NAS was useful and timely, which reinforced my inclination to rely more on the Academies for the input OSTP needed to do its work. I thought it particularly important to establish a close working relationship on issues related to terrorism. The reports of the NAS committee co-chaired by Lewis

Branscomb and Richard Klausner will receive an immediate hearing in the set of interagency subgroups arrayed under OSTP's Committee on Anti-terrorism.

Acting with PCAST Co-Chairman Floyd Kvamme, I also formed a subcommittee under the President's Council of Advisors on Science and Technology (PCAST) to engage that non-governmental policy group in terrorism issues. The panel is chaired by Norman Augustine, who also had attended the September 21 NAS meeting.

OSTP's interaction with the broader scientific community and with higher education have been through the various Washington-based organizations, particularly the AAAS and organizations such as AAU, ACE, NASULGC for education and AIP, ACS, AGU, ASCE, ASME, etc. for the professions. My colleagues and I continue to speak and listen at the major meetings of these organizations.

The unfinished part of the business of organizing science for the war against terrorism is establishing specific agency programs to support needed research and development. These do exist in some cases, the most notable example being a DOD initiative under the Technical Support Working Group co-chaired by DOD and DOS.

My advice to investigators who wanted to contribute has been to contact the program managers who ordinarily fund their work. They would know what plans their agencies have to respond to issues already identified. A more strategic vision is being prepared by my office as part of a larger plan Governor Ridge has promised to deliver later this year. The schedule is such that recommendations from the Branscomb-Klausner Committee can be taken into account.

I expect the NAS report to frame a more strategic view of terrorism issues from a technical point of view than other efforts up until now. Events so far have driven action in only a small number of the many areas that deserve attention. Identifying those areas is in itself an urgent and difficult problem. I would very much appreciate advice on a national, systematic approach to defining what I call the map for the war against terrorism. Various lists of topics have emerged, most in analogy with the needs of conventional warfare. Fortunately, we are not starting from ground zero, as it were. The history of terrorist threat assessment began long before September 11. But in my view, key ideas are still missing.

Meanwhile, we respond to what seem to be obvious vulnerabilities in civilian systems such as transportation, communication, energy, food, health, and physical infrastructure. We concentrate on high leverage opportunities such as the use of poisons, or pathogens, or the explosive release of energy.

Let me summarize the current status of these activities, which are coordinated within my office by my Chief of Staff, Shana Dale.

The Antiterrorism Task Force that we formed after the NAS meeting in September has 5 subgroups. The number is a compromise between the many issues to be addressed and the need to avoid large numbers of meetings among representatives from the same set of agencies.

Four of the subgroups cover the same spectrum of issues that the Branscomb/Klausner committee does: (1) Bio/Chemical Preparedness, (2) Radiological/Nuclear/Conventional Detection and Response, (3) Social, Behavioral & Educational Issues, (4) Protection of Vulnerable Systems. The fifth group is a rapid response team whose membership can shift depending upon the issues. The idea is to be able to provide immediate high-level technical response in "real time" to the Office of Homeland Security.

Since October, when it was formed, the Rapid Response Team has been dealing with problems associated with the exploitation of the US Postal Service to distribute anthrax spores. NIST and AFRRRI (Armed Forces Radiobiology Research Institute) have rendered very important services to this team.

Other specific activities include:

Baggage Screening - analysis of capabilities of currently available technologies

Biological Sensors - Interagency Working Group established (through OHS) to coordinate ongoing activities, identify research gaps among the multiple agencies involved

Nuclear Smuggling - similar group as above with focus on international and across borders

Exit/Entry Systems - review and assess technology associated with such systems for land air, sea borders (includes biometrics)

International Student Visas - we are working closely with OHS and relevant agencies to protect the appropriate and valuable role of international students in the nation's science and technology enterprise, while also acknowledging the legitimate interests of national security. This is an important and sensitive issue that has engendered a good deal of nervousness in the academic community. OSTP is closely involved with this issue

Legal Issues/Information Sharing - the sharing of information horizontally (across federal agencies) and vertically (among federal, state, and local governments) is fraught with legal issues

There's much work to be done in the war against terrorism, and, as I've explained briefly today, there is certainly a role for science and technology in this important effort. My staff at OSTP and I look forward to continuing to learn from NAS and sharing your ideas, as we continue to work with the Office of Homeland Security, and other relevant federal groups.

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