



## HOMELAND SECURITY AND NATIONAL DEFENSE *Research and Development in the President's 2009 Budget*

Research and development (R&D) continues to play a key role in securing the Nation against the terrorist threat and enabling its diverse defense missions. The President's 2009 Budget maintains an aggressive investment in scientific research, technology development, and research infrastructure that will continue to enhance our Nation's security and defense capabilities. Priority research areas include:

**Department of Defense Science and Technology (DoD S&T):** In FY 2009, DoD S&T is \$11.5 billion, approximately 7% above the FY 2008 request, and includes a record \$1.7 billion for basic research (\$270 million or 19% above the 2008 request). Increases in basic research funding will emphasize peer-reviewed research, enhance the science and engineering personnel base, support targeted focus areas, and be responsive to priority S&T capabilities gaps.

**Establishing the Nation's Nuclear Defense:** The 2009 Budget supports R&D to confront the threat posed to our nation by preventing enemy acquisition of nuclear materials and devices, interdicting those materials and devices, and attributing them to the threat source (nonproliferation). Research and development is also being conducted to manage the consequences of an attack should prevention fail (response and recovery) and quickly and precisely attribute the act of terrorism to those responsible. The National Science and Technology Council (NSTC) Subcommittee on Nuclear Defense R&D, working primarily through the Department of Homeland Security (DHS), DoD, the Department of Energy, and the Director of National Intelligence, is overseeing the interagency process to establish a robust and comprehensive program, with combined R&D funding of \$360 million addressing the threat of radiological or nuclear weapons. DHS' Domestic Nuclear Defense Office 2009 budget is \$564 million, \$79 million, or 16 percent, more than FY 2008 funding.

**Countering the Explosives Threat:** Conventional explosives in the form of vehicle-borne or improvised explosive devices (IEDs) remain the most accessible weapons available to terrorists for crippling critical infrastructure or inflicting casualties. As called for in Homeland Security Presidential Directive-19, the Attorney General, working with other Departments and Agencies, delivered a strategy this year to the President and his 2009 Budget provides for R&D projects to improve our abilities in this area, including \$96 million for explosives countermeasures research within DHS. In addition, DoD has been funding extensive related research in budget supplementals for the Global War on Terror.

**Enhancing Medical Defenses for Chemical, Biological, and Radiological/Nuclear (CBRN) Threats:** The FY 2009 budget supports both basic research and advanced development on countermeasures for CBRN attacks. The Department of Health and Human Services (HHS) leads this effort with \$2 billion in R&D funding. This includes targeted investments to address the challenges of bringing advanced medical countermeasures to market and the development of new patient ventilator technologies.

**Securing National Information Technology Infrastructure: Under the interagency Networking and Information Technology R&D program,** the President is requesting \$280 million in FY 2009 for R&D to prevent, resist, detect, respond to, and/or recover from actions that compromise or threaten the availability, integrity, or confidentiality of the computer- and network-based systems that underpin national defense, homeland security, and the nation's economy.

**Protecting the Nation's Food and Livestock:** \$691 million is allocated in FY 2009 for the Department of Agriculture (USDA), HHS and DHS to continue efforts to improve food and agriculture defense. This includes funding for an interagency modeling initiative which, under the direction of the NSTC Foreign Animal Disease Threat Subcommittee, will coordinate USDA and DHS foreign animal disease models, fund R&D to enhance the capability of those models, and fund a center through the National Science Foundation to explore new and innovative modeling techniques at the intersection of mathematics and biology. \$46 million is requested for the planning and pre-construction for the National Bio- and Agrodefense Facility which will provide modernized and integrated high-security facilities to conduct research on potential threats to both humans and animals.

**Power and Energy Research:** Addressing energy demand, storage and usage for DoD requires more than adjustments in policy or logistics; it requires robust R&D to provide for the needs of future weapon systems, infrastructure and power supply. The aggressive DoD strategy includes R&D on alternative fuels, high efficiency turbine aircraft engines, novel battery technology, and a demonstration program for high efficiency vehicles. Over \$500 million is identified in the President's 2009 Budget to support power and energy R&D programs in the DoD.