Research and development (R&D) continue to play a key role in securing the Nation against the terrorist threat. The President’s 2008 Budget maintains an aggressive investment in scientific research, technology development, and research infrastructure aimed at continuing to enhance our Nation’s security. Priority research areas include:

**Protecting the Nation from Nuclear Terrorism:** To continue to develop the tools necessary to prevent the terrorist use of a nuclear weapon against the United States, the President’s 2008 Budget supports R&D and operational programs for nuclear defense. This includes $320 million for the Domestic Nuclear Defense Office’s research and development activities. Within this total, DNDO will invest $100 million in transformational R&D aimed at enhancing our ability to detect, identify, and attribute nuclear and radiological materials. This research looks beyond current capabilities and seeks to find new scientific tools and methodologies that may prove useful in broad efforts to focus the Nation’s resources toward countering the threat of nuclear and radiological devices.

**Countering the Threat from Explosives:** Conventional explosives used in the form of vehicle-borne or other improvised explosive devices (IEDs) remain one of the most accessible weapons available to terrorists to attack and cripple critical infrastructure or to inflict casualties. Explosives are a threat to aviation security as well. The President’s 2008 Budget will provide substantial funding for R&D projects to address these threats, including $67 million for explosives countermeasures research in DHS.

**Enhancing the Nation’s Medical Defenses for Biological, Chemical, and Radiological Threats:** The President’s 2008 Budget continues to provide strong support for basic and applied research aimed at the development of novel medical countermeasures against chemical, biological, radiological and nuclear (CBRN) threats. The Department of Health and Human Services (HHS) continues to lead this effort with $1.9 billion in funding requested to support R&D in this area, principally through the National Institute of Allergies and Infectious Disease’s research programs. This funding will also address the challenges of bringing new countermeasures to market, and includes $190 million to support advanced development.

**Securing the Nation’s Information Technology Infrastructure:** The President is requesting $217 million in 2008 to fund investments in cyber security and information assurance R&D. This includes R&D to prevent, resist, detect, respond to, and/or recover from actions that compromise or threaten to compromise the availability, integrity, or confidentiality of computer- and network-based systems. These systems provide both the basic infrastructure and advanced communications in every sector of the economy, including critical infrastructures such as power grids, emergency communications systems, financial systems, and air-traffic-control networks. These systems also support national defense, national and homeland security, and other vital Federal missions, and themselves constitute critical elements of the IT infrastructure.

**Protecting the Nation’s Food and Livestock:** $539 million is allocated for the U.S. Department of Agriculture, HHS and DHS to continue efforts to improve food and agriculture defense. This includes funding for an interagency office to coordinate the advanced development of countermeasures to prevent or mitigate the effects of threats to our Nation’s animal agricultural industry, $11 million for the planning and design for the National Bio and Agrodefense Facility (NBAF) and $16 million for the planning and design of a biocontainment laboratory and consolidated poultry research facility at Athens, Georgia. NBAF will enhance national bio-defense efforts by modernizing and integrating high-security facilities, thus expanding our capacity to assess potential threats to humans and animals alike. In addition, funding for USDA programs includes $177 million for pest detection and animal health monitoring and $88 million for research into emerging and exotic diseases and food safety.

**Protecting Water Infrastructure and Improving Decontamination:** The President has requested a total of $69 million to fund new and ongoing research in water security and post-incident decontamination at the Environmental Protection Agency. This includes R&D for monitoring and surveillance of terrorist threat agents in drinking water and the strengthening of decontamination capabilities.