NUCLEAR SECURITY SPENDING

ASSESSING COSTS, EXAMINING PRIORITIES

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EXECUTIVE SUMMARY

Although the United States does not maintain or track a nuclear weapons budget per se, it is possible, using publicly available government documents, to assemble a reasonably accurate—although not comprehensive—picture of most nuclear weapons and weapons-related spending.

To assess such expenditures, this study allocates them to one of five categories:

- **Nuclear forces and operational support**—costs associated with upgrading, operating, and maintaining nuclear delivery systems, warheads and bombs, and associated infrastructure;
- **Deferred environmental and health costs**—costs associated with managing and cleaning up radioactive and toxic waste resulting from and compensating victims of more than sixty years of nuclear weapons production and testing activities;
- **Missile defense**—costs associated with developing and deploying defenses against short- and long-range ballistic missiles;
- **Nuclear threat reduction**—costs associated with reducing and preventing nuclear threats at home and abroad by taking steps to secure nuclear weapons and weapons-related materials (primarily highly enriched uranium and plutonium), eliminate weapons and weapons-related materials, and stem the further proliferation of weapons, materials, and the technical knowledge to make them; and
- **Nuclear incident management**—costs associated with preparing for the use of nuclear or radiological weapons against the United States, including continuity of operations programs, efforts to detect and defuse terrorist weapons, technology to trace the source of radioactive materials used in such weapons, and medical and other response programs to deal with the aftermath of attacks.

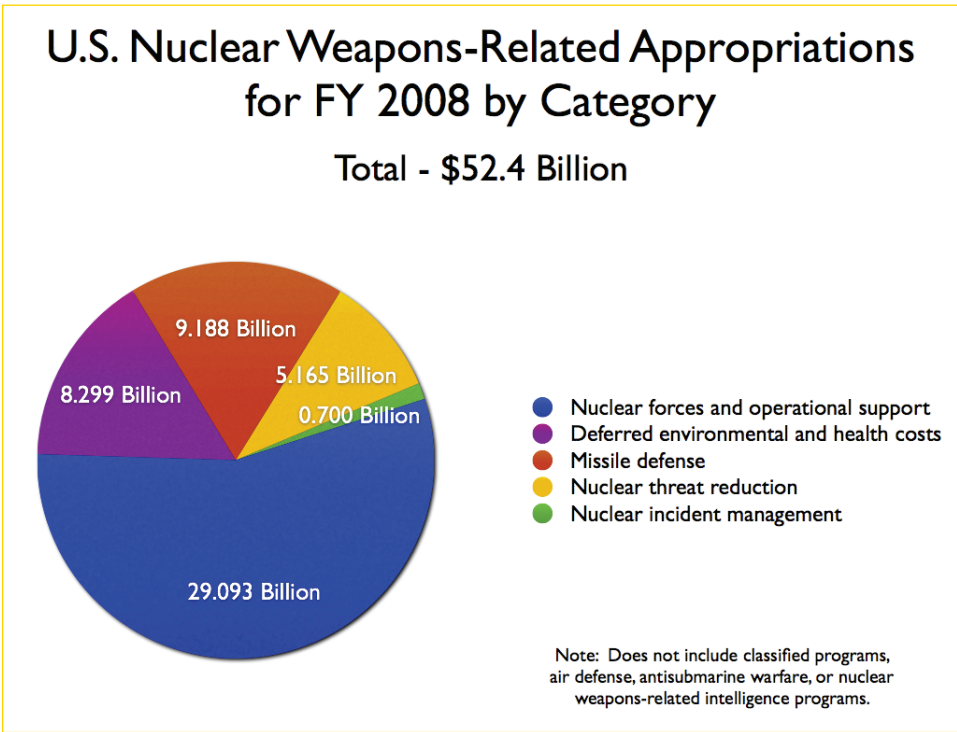
Findings

Total appropriations for nuclear weapons and weapons-related programs in fiscal year (FY) 2008 were *at least* $52.4 billion, according to the best available data (see Figure 1). This does not include costs for air defense, antisubmarine warfare, classified programs, and most nuclear weapons–related intelligence programs. The total costs borne by the Department of Defense (DOD) to deploy and maintain nuclear forces are partially estimated and therefore may be too low.[1] Even so, this

amount is far larger than most officials would acknowledge. When these officials consider nuclear weapons costs, they generally do so only from the perspective of their respective department, agency, or jurisdiction.

By way of comparison, the 2008 nuclear weapons and weapons-related "budget" exceeds all anticipated government expenditures on international diplomacy and foreign assistance ($39.5 billion) and natural resources and the environment ($33 billion). It is nearly double the budget for general science, space, and technology ($27.4 billion), and it is almost fourteen times what the U.S. Department of Energy (DOE) has allocated for all energy-related research and development. Moreover, the allocation of funds among the five categories reveals troubling realities about current government priorities in the nuclear arena.

FIGURE 1



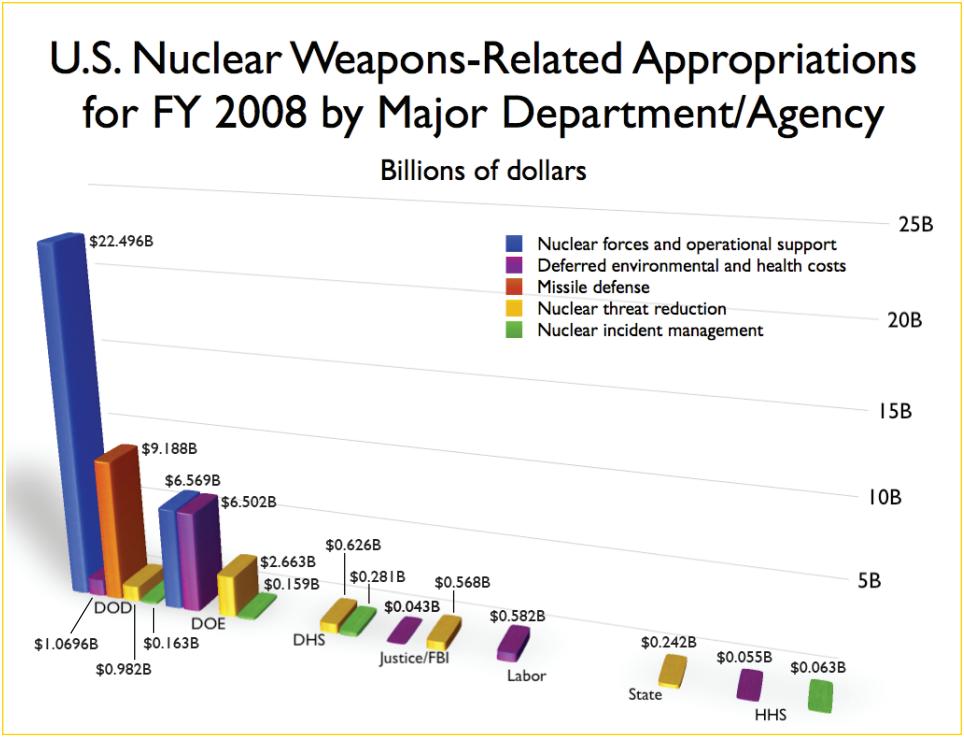
Nuclear weapons and weapons-related spending accounts for about:

- 67 percent of the DOE budget;
- 8.5 percent of the budget of the Federal Bureau of Investigation;
- 7.1 percent of the DOD budget (excluding the supplemental costs of the wars in Afghanistan and Iraq); and
- 1.7 percent of the Department of Homeland Security budget.[2]

Broken down by major agencies, the nuclear budget looks like this (see Figure 2 for a graphic representation of the disparities between agencies and categories):

- Department of Defense, $33.9 billion;
- Department of Energy, $15.9 billion;
- Department of Homeland Security, $0.907 billion;
- Department of Justice, $0.612 billion;
- Department of Labor, $0.582 billion;
- Department of State, $0.242 billion; and
- Department of Health and Human Services, $0.119 billion.

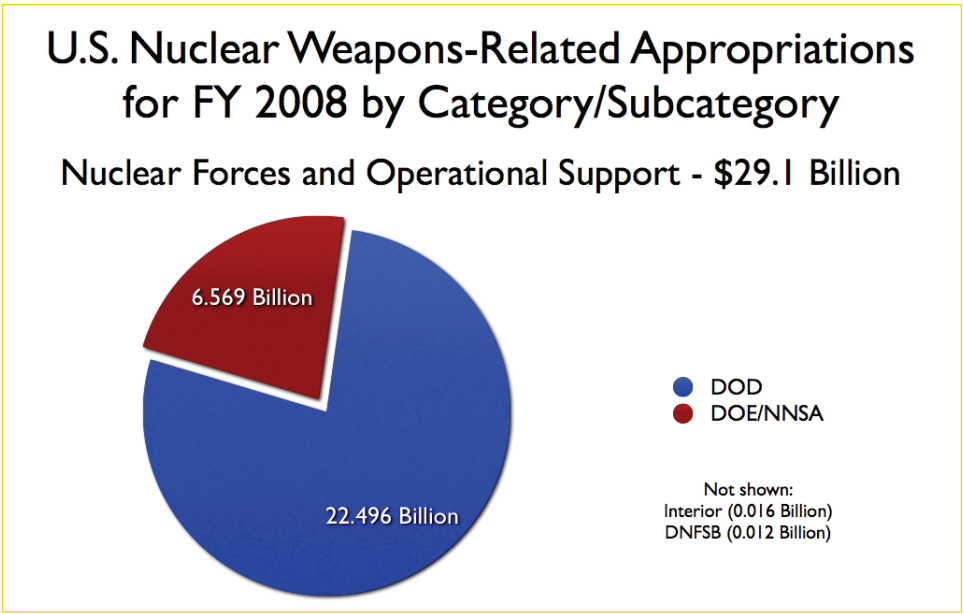
FIGURE 2



DOD = Department of Defense; DOE = Department of Energy; DHS = Department of Homeland Security; HHS = Department of Health and Human Services

About 55.5 percent ($29.1 billion) of all nuclear expenses go toward upgrading, operating, and sustaining the U.S. nuclear arsenal (see Figure 3). These costs will increase significantly if the DOE's proposals to rebuild the nuclear weapons production complex and resume the production of nuclear weapons are approved and funded.

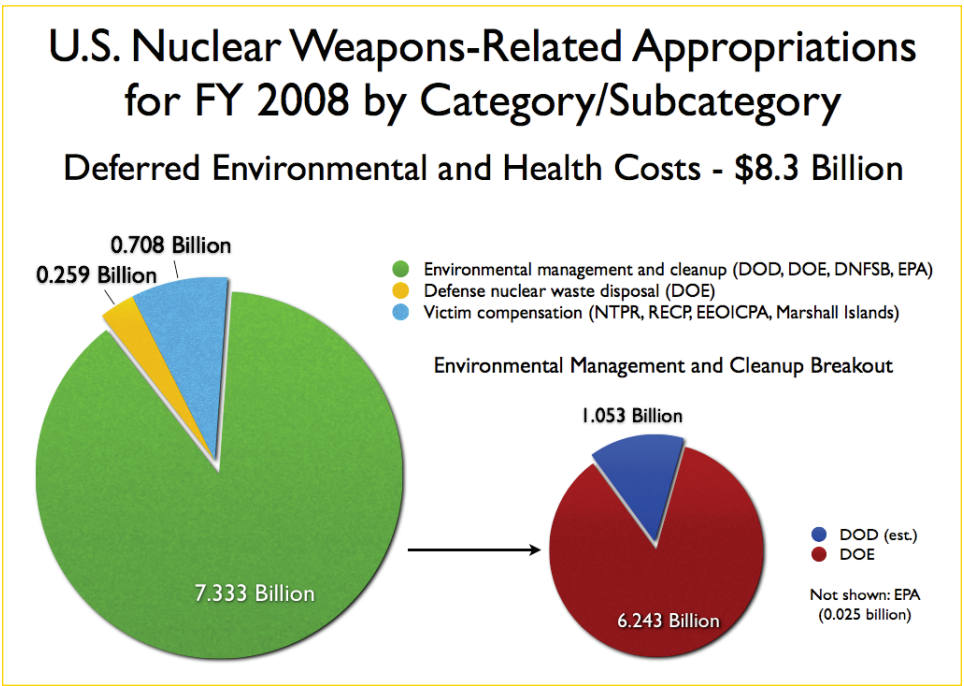
FIGURE 3



DNFSB = Defense Nuclear Facilities Safety Board

Another 15.8 percent ($8.3 billion) was appropriated to address the deferred environmental and health costs of more than six decades of nuclear weapons production and testing (see Figure 4). Because these costs are largely (but not

FIGURE 4

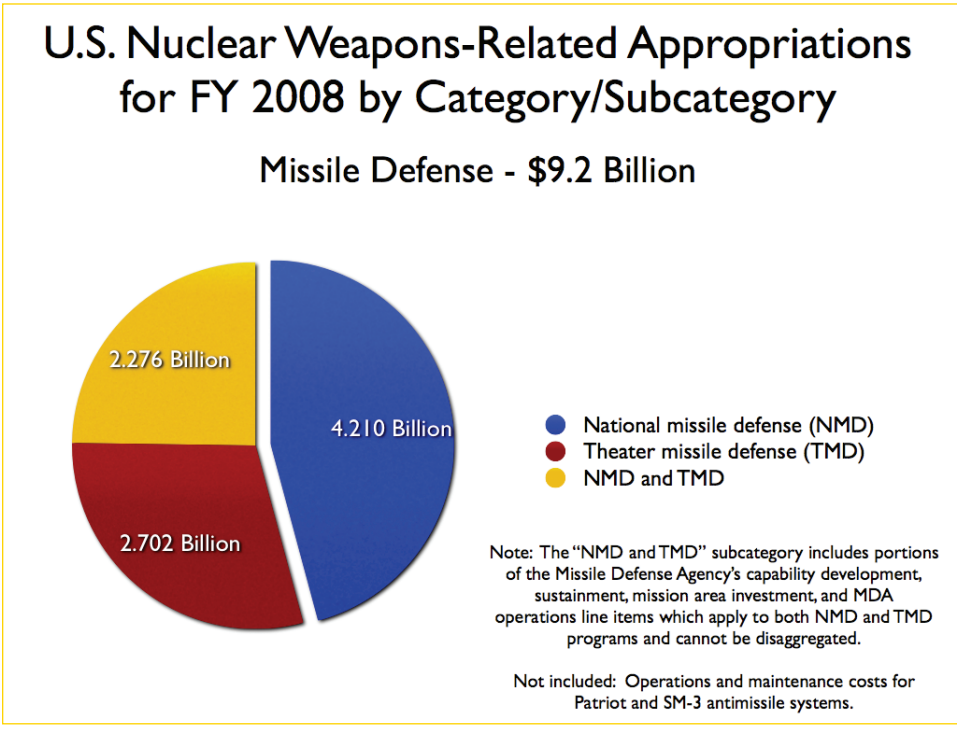


EPA = Environmental Protection Agency; NTPR = Nuclear Test Personnel Review; RECP = Radiation Exposure Compensation Program; EEOICPA = Energy Employees Occupational Illness Compensation Program Act

entirely) associated with historical activities, they are loosely connected to the costs of sustaining the current arsenal. However, if nuclear weapons production resumes, or if the DOE moves forward with plans to decommission many older production sites, these costs will increase in the future.

Some 17.5 percent ($9.2 billion) was appropriated for missile defense programs, 56 percent more than the amount allocated for all nuclear threat reduction programs (see Figure 5). Deploying components of a land-based antimissile system in Poland and the Czech Republic, as proposed by the George W. Bush administration, would push these costs higher in future years.

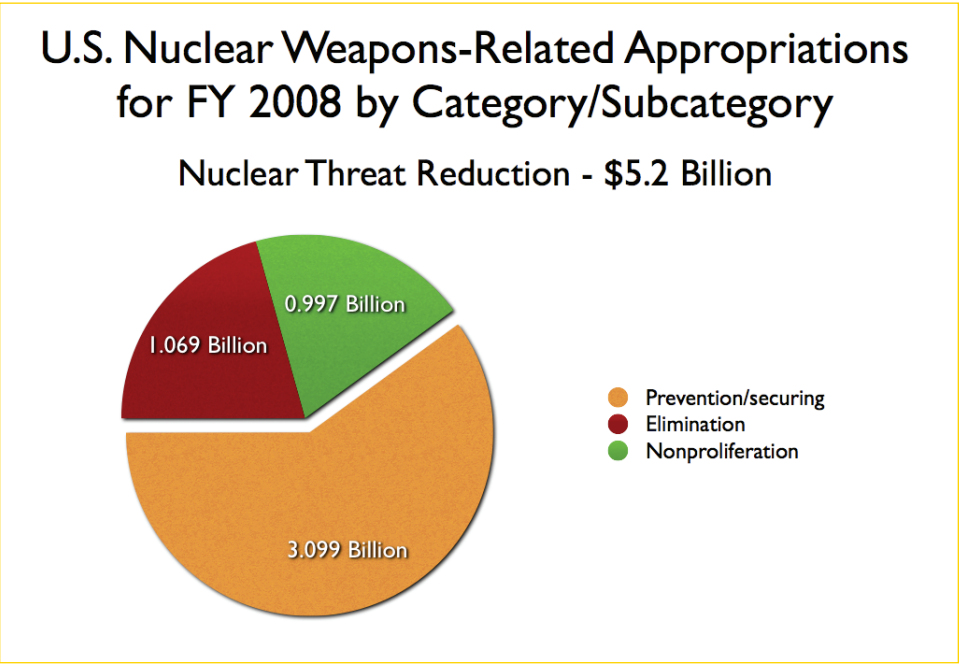
FIGURE 5



Efforts to stem the spread of nuclear weapons and nuclear technology, eliminate "loose nukes," and prevent the use of nuclear weapons anywhere are a relatively low budgetary priority. Just 9.9 percent ($5.2 billion) was appropriated for such activities in 2008. Of that total, $3.1 billion (60 percent) went toward preventive and security measures, $1.1 billion (20.7 percent) focused on eliminating nuclear threats, and $997.3 million (19.3 percent) was for nonproliferation programs (see Figure 6). In comparison, the DOE's National Nuclear Security Administration received nearly $5 billion for "defense programs" to sustain the nuclear stockpile. The DOD allocated an estimated additional $22.5 billion to upgrade, operate, and maintain the U.S. strategic nuclear arsenal. Although threat reduction programs do

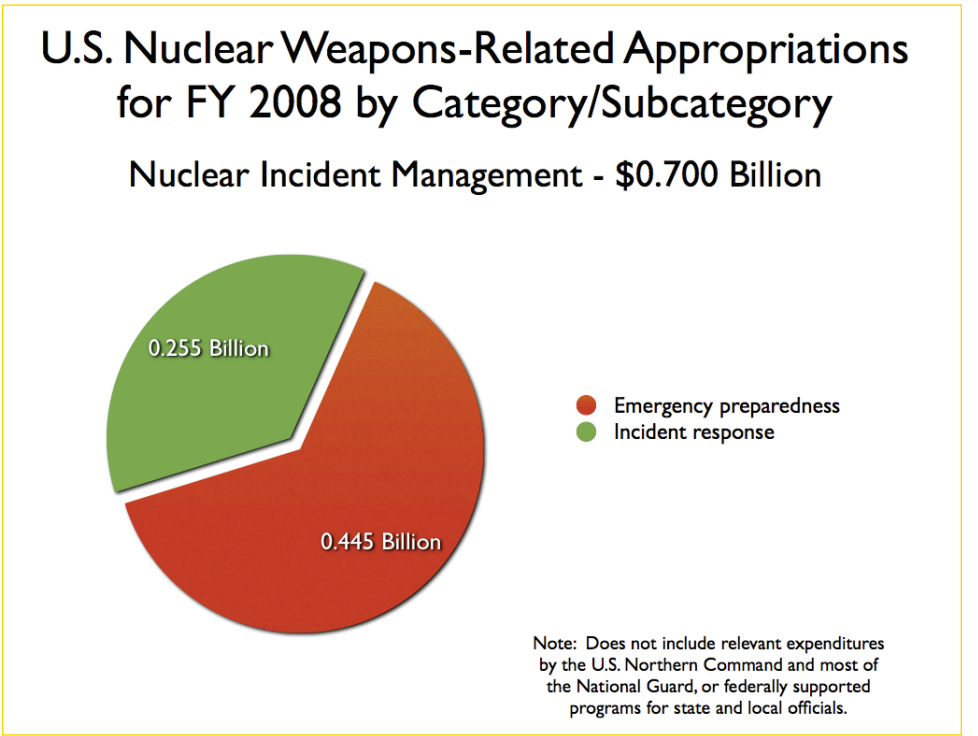
not require and would not always benefit from the same level of investment as operational forces (not least because they are generally less capital-intensive and have more limited objectives), this disparity sends a message to the rest of the world that the United States considers preserving and enhancing its nuclear options more important than preventing nuclear proliferation.[3]

FIGURE 6



Considering the concerns raised by government officials and others in recent years about the increasing likelihood that terrorists will use nuclear or radiological weapons on U.S. soil, it is noteworthy that in 2008 slightly less than $700 million (1.3 percent) was appropriated to prepare for the consequences of the use of these weapons, including continuity of government programs, training expert teams to detect and defuse weapons, and developing methods to trace the original source of materials used in such weapons (see Figure 7). It is important to note, however, that some relevant preparedness spending, particularly by the DOD and the HHS, is not captured in this total because it is for disaster response generally and not nuclear attacks specifically. In addition, this study captures only federal spending, not state and local funding for emergency preparedness and response (little if any of which would be tied directly to nuclear terrorism but which nonetheless could be used to address it). Moreover, civil defense measures historically received relatively little funding, because officials did not want to undermine public confidence in nuclear deterrence, because of the difficulties in providing protection to the entire population, and because military leaders strongly and consistently favored offensive over defensive measures as the best allocation of government resources.

FIGURE 7



These findings are explored in more detail in the sections below.

Recommendations

Effective oversight of government nuclear security programs is impossible without complete, reliable data on their comprehensive annual and cumulative costs. Such an accounting has never been available to decision makers. Below are four key recommendations for policy makers to consider that would help rectify this fundamental problem and improve U.S. nuclear policy.

CREATE COMPREHENSIVE NUCLEAR ACCOUNTING SYSTEMS

Congress should require the executive branch to prepare and submit annually, in conjunction with the annual budget request, an unclassified and classified accounting of all nuclear weapons–related spending for the previous fiscal year, the current fiscal year, and the next fiscal year. The DOD, using the Future Years Defense Program, should project its nuclear weapons–related spending five or six years into the future.

A senior White House official, perhaps within the congressionally mandated office to coordinate nuclear proliferation and counterterrorism efforts, or the National Security Council, should be responsible for overseeing this annual exercise, in conjunction with key officials of the Office of Management and Budget and senior budget officials of key departments and agencies.

QUANTIFY NUCLEAR-RELATED INTELLIGENCE EXPENDITURES

The congressional armed services, defense appropriations, and intelligence committees, working with the intelligence community, should devise tools to better explain and quantify nuclear weapons–related intelligence expenditures. They should ascertain, to the greatest extent possible, how much is spent to enhance the effectiveness of operational nuclear forces, how much is spent supporting defensive operations related to nuclear weapons (missile defense, air defense, and antisubmarine warfare), and how much is spent supporting efforts to prevent and eliminate nuclear threats, and prepare and respond to nuclear incidents. Greater insight and transparency about these matters (at the very least within policy-making circles) could enhance understanding of U.S. intelligence capabilities and lead to a better allocation of intelligence assets to address urgent nuclear-related threats.

FOCUS ON PROACTIVE THREAT REDUCTION STRATEGIES

Greater fiscal and programmatic emphasis should be placed on programs that seek to secure and prevent the proliferation of nuclear weapons, weapons materials, and technical knowledge, and to eliminate threats posed by such weapons, materials, and knowledge. Such efforts—notably the DOD's Cooperative Threat Reduction (CTR) and the DOE's Materials Protection, Control, and Accounting (MPC&A) program—have a demonstrated record of success, are proactive, are more cost-effective than technology-driven efforts such as missile defenses, and can be implemented quickly and at a relatively modest cost to ensure significant security gains today and in the future. These efforts currently receive funding sufficient for their limited scope, but increased funding, as recommended above, will be required to implement President-elect Obama's pledge to "lead a global effort to secure all nuclear weapons and material at vulnerable sites within four years."[4]

In addition, if the Obama administration chooses to continue the Proliferation Security Initiative, it should establish clear metrics to track its accomplishments and submit a detailed accounting of the previous year's expenses for the program with future budget requests. At present, the costs associated with PSI exercises and

operations come from the annual operating funds for the vessels and aircraft that participate (the specific costs to oversee the effort at the DOD and the State Department, and other federal agencies, are unknown but are probably captured, at least in part, under the nuclear threat reduction category in this report). Given the nature and purpose of the PSI, it may not be feasible to anticipate all costs in advance, but knowing how much has been spent to achieve the program's benefits is essential for accountability and success.

ENSURE EQUITY FOR ATOMIC VETERANS

Finally, very little is known about the costs of treating veterans who were exposed to dangerous levels of radiation while participating in atmospheric nuclear testing activities between the middle 1940s and the early 1960s—unlike programs created to compensate civilians injured by fallout from atmospheric nuclear weapons tests or workers at the DOE's nuclear weapons production facilities who were exposed to dangerous levels of radiation or toxic chemicals. Congress should require the Department of Veterans Affairs to provide a complete accounting of the number of veterans, past and present, who have requested and received compensation and care for injuries and illnesses attributable to exposure to radiation from U.S. nuclear weapons tests, including the cost of such compensation and care. Aggregated cumulative and annual figures for those whose claims have been denied should also be published, to enable comparisons with the Radiation Exposure Compensation Program and the Energy Employees Occupational Illness Compensation Program Act.

Implementing these recommendations will increase understanding and accountability, which in turn will lead to greater public support for critical nuclear security programs and a more effective allocation of public resources. When combined with a new focus on nuclear policy matters, including the administration's forthcoming Nuclear Posture Review, such efforts will help to ensure that U.S. political and fiscal nuclear priorities are properly aligned.