



## CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

May 10, 2004

### **H.R. 3921** **Safety for Americans from Nuclear Weapons Testing Act**

*As introduced on March 9, 2004*

#### **SUMMARY**

H.R. 3921 would require that the federal government prepare environmental impact analyses, provide grants to institutions of higher education to buy and operate radiation monitoring equipment, conduct comprehensive monitoring of radiation releases into the atmosphere, establish a national center for the study of radiation and human health, and submit a report to the Congress on the results of an extensive health research study should the testing of nuclear weapons by the United States be resumed.

CBO estimates that the cost of implementing the provisions of the bill would total \$12 million in 2005 and \$95 million over the 2005-2009 period, assuming the appropriation of the necessary amounts. The bill contains a provision that could increase direct spending for compensation to individuals whose health may be adversely affected by nuclear weapons tests. However, CBO believes there is a low probability of this occurring and thus does not ascribe any cost to this provision at this time.

H.R. 3921 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

#### **ESTIMATED COST TO THE FEDERAL GOVERNMENT**

The estimated budgetary impact of H.R. 3921 is shown in the following table. For purposes of this estimate, CBO assumes that the bill will be enacted by October 1, 2004, that the necessary amounts will be appropriated each year, and that outlays will follow historical spending patterns for operating costs and grant programs. The costs of this legislation fall within budget functions 050 (national defense), 300 (natural resources and environment), 450 (community and regional development), and 550 (health).

|   | By Fiscal Year, in Millions of Dollars |      |      |      |      |
|---|--|------|------|------|------|
|   | 2005                                   | 2006 | 2007 | 2008 | 2009 |
| <b>CHANGES IN SPENDING SUBJECT TO APPROPRIATION<sup>a</sup></b> |  |      |      |      |      |
| Environmental Impact Analyses                                   |  |      |      |      |      |
| Estimated Authorization Level                                   | 7                                      | 0    | 0    | 0    | 0    |
| Estimated Outlays   | 2                                      | 3    | 2    | 0    | 0    |
| Independent Radiation Monitoring                                |  |      |      |      |      |
| Estimated Authorization Level                                   | 1                                      | 2    | 2    | 2    | 2    |
| Estimated Outlays   | 1                                      | 1    | 2    | 2    | 2    |
| DOE/EPA Radiation Monitoring                                    |  |      |      |      |      |
| Estimated Authorization Level                                   | 2                                      | 2    | 2    | 2    | 2    |
| Estimated Outlays   | 2                                      | 2    | 2    | 2    | 2    |
| National Center for the Study of<br>Radiation and Human Health  |  |      |      |      |      |
| Estimated Authorization Level                                   | 5                                      | 15   | 15   | 16   | 16   |
| Estimated Outlays   | 4                                      | 5    | 11   | 14   | 15   |
| National Cancer Institute Study                                 |  |      |      |      |      |
| Estimated Authorization Level                                   | 4                                      | 4    | 5    | 5    | 5    |
| Estimated Outlays   | 3                                      | 4    | 5    | 5    | 5    |
| Total Changes   |  |      |      |      |      |
| Estimated Authorization Level                                   | 19                                     | 23   | 24   | 24   | 25   |
| Estimated Outlays   | 12                                     | 15   | 22   | 22   | 24   |

NOTES: DOE = Department of Energy; EPA = Environmental Protection Agency.  
Sum of individual provisions may not add to totals because of rounding.

- a. Enacting H.R. 3921 also could increase direct spending for compensation of certain individuals adversely affected by the resumption of nuclear testing, but CBO estimates that this provision is unlikely to result in any significant costs.

## **BASIS OF ESTIMATE**

### **Spending Subject to Appropriation**

CBO estimates that implementing H.R. 3921 would cost \$12 million in 2005 and \$95 million over the 2005-2009 period, assuming the appropriation of the necessary amounts. About \$71 million of that total would result from increasing research efforts by the National Institutes of Health while the remaining \$24 million would be associated with environmental

activities. Individual provisions that would affect discretionary spending are described below.

**Environmental Impact Analyses.** Although there has been no testing of nuclear weapons at the Nevada Test Site (NTS) since 1992, the United States may in the future resume such testing. Section 3 of the bill would require the Department of Energy (DOE) to provide an environmental impact statement prior to the resumption of nuclear weapons tests at the NTS that includes information about the possibility of radiation exposure as a result of conducting the tests and the possible long-term effects on the water table from underground radiation leakage from the tests. Based on information from DOE, CBO estimates that one environmental impact statement would be prepared prior to the resumption of nuclear testing at the NTS, that the statement would take about 30 months to complete, and that it would cost \$7 million to prepare.

**Independent Radiation Monitoring.** Section 6 would allow the Department of Homeland Security (DHS) to make grants to institutions of higher education to acquire radiation detection equipment and sensors and, for a period of 10 years, to maintain and operate the equipment and sensors. The information collected by that equipment would be made available to the public. Based on information from the Environmental Protection Agency (EPA), CBO expects that equipment and sensors would include such devices as air samplers, real-time exposure rate recorders, and communications equipment. The air samplers would capture samples of the ambient environment and send those samples to an independent laboratory to test for radioactivity. The rate recorders would measure radiation exposure and the communications equipment would transmit these data via telephone line or satellites to the Internet for public access.

Based on information from EPA, CBO assumes that a complete set of radiation monitoring equipment would consist of an air sampler, a real-time measurement device, and a communication device. CBO estimates that the cost for each set would be about \$100,000, with most of the cost going towards the purchase of the measurement device. CBO estimates that the costs to operate the equipment would be between \$100,000 and \$200,000 for each set. CBO assumes that DHS would make grants to a handful of universities that surround the NTS and that each university would buy two sets of equipment. Based on those assumptions, CBO estimates that implementing section 6 would cost \$1 million in 2005 and \$8 million over the 2005-2009 period, assuming appropriation of the necessary amounts.

**DOE/EPA Monitoring.** Section 7 would require DOE and EPA to monitor for radiation releases into the atmosphere whenever the United States carries out a test of a nuclear weapon or other nuclear explosive device. Currently, DOE relies on a network of 24 monitoring stations located in communities surrounding the NTS to monitor the airborne

environment for manmade radioactivity that could result from NTS activities. The network stations, located in Nevada and Utah, consist of radiation monitoring sensors, state-of-the-art electronic data collectors, and communications hardware, enabling updates to a publicly accessible Web site. Today, managing the stations is a joint effort between the DOE and the Desert Research Institute of the University and Community College System of Nevada. The institute employs local citizens whose routine tasks are to maintain the equipment, collect air filters and route them to an independent laboratory for analysis. Although EPA had a central role in managing those stations throughout the 1980s and 1990s, that role ended about five years ago.

Based on information provided by EPA and DOE, CBO assumes that the existing network of 24 monitoring stations could meet the new requirements set forth in this bill with little or no budgetary impact. However, based on actual costs incurred by EPA when they operated the monitoring stations in the 1990s, CBO estimates that resuming EPA's role in operations would cost about \$2 million a year, assuming the availability of appropriated funds.

**National Center for the Study of Radiation and Human Health.** Section 8 would establish the National Center for the Study of Radiation and Human Health. Under the bill, the Center would award grants to educational institutions to study the effects of human exposure to radiation, especially as it pertains to fallout from nuclear testing. The funding required by the Center would vary proportionately with the amount and level of research they chose to undertake. However, based on funding levels for other radiation research activities, such as the Low Dose Radiation Research Program and the Radiation Effects Research Foundation, CBO estimates the Center would require annual funding of about \$15 million a year to undertake a comprehensive research program. Costs would be lower in the first year due to the time needed to start the Center and to establish grant application and award procedures. Thus, CBO estimates that implementing this section would cost \$4 million in 2005 and \$49 million over the 2005-2009 period, assuming the appropriation of the necessary amounts.

**National Cancer Institute Study.** Section 9 would require the National Cancer Institute to undertake a study to estimate the amount of radiation received by the U.S. population as a result of nuclear weapons tests and report the results to the Congress within three years. Large epidemiology studies of this type require substantial time and effort and CBO does not expect the study to be completed in the proscribed time period. Based on data from the National Cancer Institute on the length and cost of other radiation studies, including a study of the radionuclide Iodine-131 and health studies at Chernobyl, Ukraine, and Hanford, Washington, CBO estimates this study could take as many as 10 years to complete and cost about \$4 million a year to conduct. Thus, CBO estimates that implementing this section

would cost \$3 million in 2005 and \$22 million over the 2005-2009 period, assuming appropriation of the estimated amounts.

### **Direct Spending**

Section 7 would require the Attorney General to establish a compensation program for individuals adversely affected by a resumption of nuclear testing, similar to compensation provided under section 4 of the Radiation Exposure Compensation Act (RECA). Under RECA, individuals who lived downwind from nuclear tests are eligible for lump-sum payments of \$50,000 if they are diagnosed with a specified cancer. Because the program would be modeled on RECA, CBO believes this provision could allow the Attorney General to compensate individuals without further Congressional authorization or appropriation action (funding authority for RECA has alternated between discretionary and mandatory). However, because the compensation would be contingent on a resumption of nuclear testing and a significant release of radioactive particles beyond the boundaries of the test site, CBO estimates that the probability of any resulting compensation claims would be insignificant, and does not ascribe any cost to this provision at this time.

### **INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT**

This bill would impose no new intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments. Public universities that receive grants to monitor radiation from future nuclear weapons testing would maintain equipment and provide data to the public as conditions for receiving federal aid.

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