



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

December 5, 2003

S. 156

A bill to amend the Atomic Energy Act of 1954 to reauthorize the Price-Anderson provisions, to provide for the security of commercial nuclear power plants and facilities designated by the Nuclear Regulatory Commission, and for other purposes

*As ordered reported by the Senate Committee on Environment and Public Works
on April 9, 2003*

SUMMARY

S. 156 would establish several new security programs designed to protect the nation's nuclear infrastructure. Those programs would include appointing federal security coordinators for designated nuclear facilities, enhanced systems to manage the security of sensitive radioactive materials, additional requirements for security and emergency-response plans at designated nuclear facilities, and additional training and grant funding for the National Guard and state and local authorities to improve security efforts at nuclear facilities. The bill also would reauthorize the Price-Anderson Act for Nuclear Regulatory Commission (NRC) licensees through 2012, which would provide a framework for the structure of liability coverage for such licensees in the event of a nuclear accident.

Based on information from the Nuclear Regulatory Commission, CBO estimates that implementing S. 156 would cost about \$175 million over the 2004-2008 period, assuming appropriation of the necessary amounts. Although the NRC currently has the authority to offset a substantial portion of its annual appropriation with fees charged to the licensees it regulates, S. 156 would require that none of the costs from activities included in the bill be offset through annual fees.

In addition, enacting S. 156 would increase revenues by establishing new criminal penalties for the sabotage of nuclear facilities and by allowing certain facilities regulated by the NRC to import weapons subject to a transfer tax. CBO estimates that those penalties and transfer taxes would increase revenues by less than \$500,000 a year. Subsequent direct spending of criminal penalties also would be less than \$500,000 per year.

S. 156 would impose both intergovernmental and private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) by decreasing premiums that can be assessed by the NRC in the event of a nuclear accident, requiring new and expanded security procedures at certain nuclear facilities, and requiring new arrest authorization for nuclear facilities. Because several of the mandates depend on future actions of the NRC for which information currently is not available, CBO cannot determine the aggregate cost of all mandates contained in the bill or whether the costs to the private sector would exceed the annual threshold for private-sector mandates (\$120 million in 2004, adjusted annually for inflation). CBO estimates, however, that the costs to public entities would be small and would not exceed the intergovernmental threshold (\$60 million in 2004, adjusted annually for inflation).

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 156 is shown in the following table. The costs of this legislation fall within budget function 270 (energy).

	By Fiscal Year, in Millions of Dollars				
	2004	2005	2006	2007	2008
CHANGES IN SPENDING SUBJECT TO APPROPRIATION^a					
Federal Security Coordinators					
Estimated Authorization Level	0	1	1	1	1
Estimated Outlays	0	1	1	1	1
Sensitive Radioactive Material					
Estimated Authorization Level	12	12	12	12	13
Estimated Outlays	8	11	12	12	13
Security and Emergency-Response Plans					
Estimated Authorization Level	9	9	13	15	9
Estimated Outlays	6	8	12	14	11
National Guard and Law Enforcement Training					
Estimated Authorization Level	11	11	11	11	11
Estimated Outlays	8	10	11	11	11
Rulemakings and Evaluations					
Estimated Authorization Level	5	2	5	1	1
Estimated Outlays	4	2	4	2	1
Total Changes					
Estimated Authorization Level	37	35	42	40	35
Estimated Outlays	26	32	40	40	37

NOTE: Details may not sum to totals because of rounding.

a. S. 156 also would affect revenues and direct spending but by less than \$500,000 a year.

BASIS OF ESTIMATE

For this estimate, CBO assumes that the bill will be enacted near the end of calendar year 2004, that the necessary amounts will be appropriated for each year, and that outlays will occur at historical rates for similar programs.

S. 156 would reauthorize provisions of the Price-Anderson Act relating to NRC licensees through August 1, 2012. The act provides a framework for the structure of liability coverage in the event of a nuclear accident. CBO estimates that reauthorizing these provisions would have no effect on the federal budget. If damages resulting from a nuclear accident exceed the liability coverage established by the Price-Anderson Act (roughly \$10 billion under current law), the act requires that the Congress determine how remaining damages would be paid. Options could include additional assessments on the nuclear industry or federal appropriations.

Spending Subject to Appropriation

Federal Security Coordinators. S. 156 would require that the NRC hire and train security coordinators to be stationed in each of the NRC's four regions. We estimate that implementing this program would require the NRC to hire and train four coordinators at a cost of about \$500,000 per year and that the program would start in 2005.

Security of Sensitive Radioactive Material. S. 156 would require the NRC to improve the security requirements for sensitive radioactive materials. Such improvements would include revising licensing and classification systems, establishing a tracking system, and increasing evaluation and inspection of safeguard measures. Currently, the NRC spends about \$1 million per year to regulate certain radioactive material used for industrial purposes. S. 156 would significantly expand that program to include a wide variety of radioactive materials.

Based on information from the NRC, we estimate that this expanded program would require additional appropriations of \$12 million per year over the next five years. Funds would be used for establishing new computer systems, hiring of additional staff, and auditing sites with radioactive materials. Overall, we estimate that implementation of this program would result in outlays of \$56 million over the 2004-2008 period.

Security- and Emergency-Response Plans. S. 156 would require the NRC to evaluate the security and emergency-response plans for each of the 66 designated nuclear facilities in the United States. Based on information from the NRC, CBO estimates that those evaluations

would cost an average of about \$10 million per year, or \$51 million over the 2004-2008 period for additional staff, equipment, training, and consulting services.

Emergency-Response Planning. S. 156 would require the NRC to review the emergency-response plan for each designated nuclear facilities. It also would require the NRC to observe and evaluate emergency-response exercises and report to the Congress. Based on information from the NRC, we expect that the agency would hire additional staff to establish evaluation criteria to observe emergency-response exercises. We estimate that these activities would cost about \$17 million over the 2004-2008 period for additional staff, support, training, and travel.

Security-Response Evaluations. S. 156 would require the NRC to establish a security-response-evaluation program that would simulate the threats that nuclear facilities must be able to defend against. At least once every three years, an evaluation would be required at each designated nuclear facility. We expect that the NRC would use contractors to conduct mock exercises, known as force-on-force. Overall, we estimate that the NRC would spend about \$7 million per year to staff and support a program office and contract for such exercises. CBO estimates that the program would cost about \$35 million over the 2004-2008 period.

National Guard and Law Enforcement Training. S. 156 would establish a new program to provide technical assistance and training for the National Guard and state and local law enforcement agencies to respond to threats against the nation's nuclear facilities. Under this program, the NRC would provide training at each of the designated 66 facilities four times a year at a cost of about \$125,000 a year—at an estimated total cost of \$8 million per year. In addition, we estimate that the 31 states with designated nuclear facilities would each receive grants of \$100,000 per year for technical assistance and training. Assuming appropriation of the necessary amounts, we estimate that implementing those training and assistance programs would require appropriations of about \$11 million a year, which would result in outlays of \$51 million over the 2004-2008 period.

Rulemakings, Evaluations, and Reports. The bill would require the NRC to prepare several reports for the Congress on nuclear security issues and conduct reviews of security matters at the nation's nuclear facilities. CBO has estimated the cost of those additional efforts based on information from the NRC. Specifically, the bill would require:

- An examination of the security requirements for the nation's nuclear infrastructure at an estimated cost of \$4 million over the 2004-2005 period;

- An update to rules on design-basis threat or the threat that designated nuclear facilities must be able to defend against at an estimated cost of \$2 million over the 2004-2006 period;
- An evaluation of each designated nuclear facility's plan to defend against the updated design-basis threat at an estimated cost of \$3.5 million in 2006;
- A review and update of employee security standards at the nation's nuclear facilities at an estimated cost of \$4 million over the 2004-2008 period;
- A report on the adequacy of criminal penalties under the Atomic Energy Act at an estimated cost of \$500,000 in 2004; and
- A system to determine threat levels for the nation's nuclear infrastructure at an estimated cost of \$300,000 over the 2005-2006 period.

Overall, we would expect that such evaluations, rulemakings, and reports to the Congress would cost \$14 million over the 2004-2008 period for additional staff, support, and consulting services.

Direct Spending and Revenues

Enacting S. 156 would increase revenues by establishing new criminal penalties for the sabotage of a wide range of nuclear facilities and allow certain facilities regulated by the NRC to import weapons subject to a transfer tax. CBO estimates that those penalties and transfer taxes would increase revenues by less than \$500,000 a year. Subsequent direct spending of penalties collected for violation of the criminal code would also be less than \$500,000 per year.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

S. 156 would impose both intergovernmental and private-sector mandates as defined in the UMRA by:

- Increasing both the maximum retrospective and annual premiums collected from NRC licensees to cover damages resulting from a nuclear incident;
- Effectively increasing fees collected from licensees to pay for fingerprint checks by increasing the number of individuals requiring background checks;

- Requiring NRC licensees and certificate holders to obtain prior authorization from the commission, allowing security personnel to make arrests without warrants in the performance of their duties; and
- Requiring new security standards and procedures at designated nuclear facilities.

Because several of the mandates depend on future actions of the NRC for which information currently is not available, CBO cannot determine the aggregate cost of all mandates contained in the bill or whether the costs to private-sector entities would exceed the annual threshold for private-sector mandates (\$120 million in 2004, adjusted annually for inflation). CBO estimates, however, that the costs to public entities would be small and would not exceed the intergovernmental threshold (\$60 million in 2004, adjusted annually for inflation).

Increase in Premiums

Under current law, in the event that losses from a nuclear incident exceed the required amount of private insurance, the NRC would levy an assessment on its licensees (both public and private) to cover the shortfall in damage coverage. Section 102 would increase the maximum retrospective premium from \$84 million to \$94 million as well as increase the maximum annual premium from \$10 million to \$15 million. CBO has determined that raising both the maximum total premium and the annual premium would increase the costs of an existing mandate and would thereby impose both intergovernmental and private-sector mandates under UMRA. Because the probability of a nuclear accident resulting in losses exceeding the amount of private insurance coverage is low, CBO estimates that the annual costs of complying with the mandates (in expected-value terms) would not be substantial over the next five years.

Additional Fee for Background Checks

S. 156 would require the NRC to conduct security inspections at licensed facilities. In addition, the bill would require fingerprinting of additional individuals connected with nuclear facilities as part of criminal background checks done through the U.S. Attorney General's Office. Although the NRC would absorb the cost of the security inspections, the cost of the government background checks would be borne directly by licensees. The duty to pay the increased cost would be both a private-sector and intergovernmental mandate under UMRA, but the cost of the mandate would be small.

Authorization for Arrests

Current law allows employees of NRC licensees and certificate holders and the employees of their contractors and subcontractors to make an arrest without a warrant while carrying out official duties. S. 156 would impose a new intergovernmental and private-sector mandate by requiring licensees and certificate holders to obtain a blanket authorization from the NRC for such arrests. The details for obtaining this authorization have yet to be determined by the commission, but CBO expects the costs of this mandate to be small.

New Security Standards and Procedures

S. 156 would require the NRC to promulgate new rules for licensees concerning:

- Security requirements for handling sensitive radioactive materials;
- Threats that certain nuclear facilities must protect against;
- Security plans, emergency-response plans, and preparedness for the facilities;
- Involvement of appropriate local governments, employers, and interested groups in the emergency-planning process;
- Access and training standards for employees of the facilities; and
- Handling of accelerator-produced and by-product radioactive material.

The new rules would constitute mandates as defined in UMRA, but the extent of those mandates would depend on future actions of the NRC. At this time, the NRC could not indicate the scope of the rules to be issued, and consequently, CBO cannot determine the cost of compliance.

PREVIOUS ESTIMATE

On August 14, 2003, CBO transmitted a cost estimate for S. 1043, the Nuclear Infrastructure Security Act of 2003, as ordered reported by the Senate Committee on Environment and Public Works on May 15, 2003. The two bills have some similar provisions regarding security programs. CBO estimates that implementing the provisions in S. 1043 would cost more to implement than those in S. 156.

S. 1043 also included intergovernmental and private-sector mandates. S. 1043 differed from this bill by allowing the NRC to offset the cost of security inspections by increasing annual fees collected from licensees, an intergovernmental and private-sector mandate. The aggregate cost of the mandates in S. 1043 could not be determined because several of the mandates depend on future actions of the NRC for which information was not available. As a result, CBO could not determine whether the costs would exceed the annual threshold for private-sector mandates (\$120 million in 2004, adjusted annually for inflation) but estimated that the costs to public entities would not exceed the intergovernmental threshold (\$60 million in 2004, adjusted annually for inflation).

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