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WATER INFRASTRUCTURE SECURITY AND RESEARCH DEVELOPMENT ACT

DECEMBER 10, 2001.—Ordered to be printed

Mr. JEFFORDS, from the Committee on Environment and Public Works, submitted the following

REPORT

[to accompany S. 1593]

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred a bill (S. 1593), a bill to authorize the Administrator of the Environmental Protection Agency to establish a grant program to support research projects on critical infrastructure protection for water supply systems, and for other purposes, having considered the same reports favorably thereon with an amendment and recommends that the bill, as amended, do pass.

GENERAL STATEMENT AND BACKGROUND

S. 1593 authorizes the U.S. Environmental Protection Agency to provide funding to support research projects on critical infrastructure protection for water supply systems.

Since the events of September 11, 2001, the United States has worked to ensure that our critical infrastructure systems are protected. There are many short-term actions that have already been taken.

Based on the recommendations of Presidential Decision Directive 63, issued by President Clinton in 1998, the Environmental Protection Agency and its industry partner, the Association of Metropolitan Water Agencies, have established a communications system, a water infrastructure Information Sharing and Analysis Center, designed to provide real-time threat assessment data to water utilities throughout the nation. Through this partnership, the Environmental Protection Agency and the Association of Metropolitan

Water Agencies are working to develop generic assessment tools that individual water utilities can use to assess their facilities for potential physical and cyber threats. In October 2001, the Environmental Protection Agency established the Water Protection Task Force to ensure that activities to protect and secure water supply infrastructure are comprehensive and are carried out expeditiously. During that same month, the EPA disseminated information to America's water utilities information about specific steps they can take to protect their sources of supply and their infrastructure. Working with the FBI, EPA also sent notice to local law enforcement agencies asking them to work closely with their local water utilities to provide extra security. The committee intends for S. 1593 to supplement these short-term efforts by focusing on mid- to long-term actions designed to enhance our current water security capabilities.

S. 1593 focuses on mid-term and long-term efforts that will:

- continue ongoing work called for by Presidential Decision Directive 63
- conduct research to assess potential threats to our water supply system, and
- develop solutions to safeguard our water systems against those threats.

This legislation authorizes twelve million dollars per year from 2002 to 2007 for the Environmental Protection Agency to use for grants to or cooperative agreements with research institutions for these purposes.

OBJECTIVES OF THE LEGISLATION

The work conducted under this legislation will yield valuable information, technologies, processes, and guidelines regarding physical and cyber threats to our water supply systems that water systems throughout the nation will be able to apply at their own facilities.

Specifically, projects eligible for funding under this program will:

- assess security issues by conducting vulnerability assessments and developing tools to conduct those assessments;
- protect water supply systems by—
 - developing technologies, processes, guidelines, standards, and procedures that protect the physical assets, information systems, and cyber assets of water supply systems from biological, chemical, and radiological contamination;
 - developing real-time monitoring systems to protect against biological, chemical, and radiological contamination;
- develop technologies and processes for mitigation, response, and recovery from biological, chemical, and radiological contamination of our water supplies;
 - continue the operation of the Information Sharing and Analysis Center to provide current threat information in a timely manner to water supply systems;
 - test and evaluate new technologies and processes by developing pilot facilities to demonstrate these new approaches and their affect on operations and costs of the water supply systems.

The legislation includes a specific provision requiring that projects conducted under this program reflect the needs of water

supply systems of various sizes and geographic areas of the United States. This section is intended to ensure that both large and small and rural and urban systems in all areas of the country receive some focus under this program. With a diverse approach to the work conducted under this program, the Environmental Protection Agency will ensure that all aspects of our nation's water supply system benefit from the information, technologies, and processes developed through this program.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title

Water Infrastructure Security and Research Development Act.

Section 2. Definitions

This section defines key terms used in the bill. Administrator is defined as the Administrator of the Environmental Protection Agency.

"Research Institution" is defined as a public or private nonprofit institution or other entity that has the expertise to perform research on the security of water supply systems and complies with applicable laws for safeguarding sensitive information. National laboratories are specifically included in this definition. Grants, cooperative agreements, or contractual arrangements that the Environmental Protection Agency undertakes in this program will be with research institutions. The requirement to safeguard sensitive information is specified here to ensure that the research conducted under this program is not misused or made available to anyone for purposes other than that which is it was intended-to increase the security of our nation's water supply system.

"Water supply system" is defined as a public water system as defined in section 1401 of the Safe Drinking Water Act (42 U.S.C. 300f) or a publicly owned treatment works, which is a treatment works as defined in section 212 of the Federal Water Pollution Control Act (33 U.S.C. 1292.) For the purposes of this Act only, the term water supply system includes water sources, a system of aqueducts, tunnels, reservoirs, or pumping facilities to convey water from the water source, a treatment facility, a distribution system carrying finished water to users through a system of mains and subsidiary pipes, or a wastewater collection and treatment system. The committee intends that this expanded definition apply only to this Act. It in no way seeks to modify any existing definitions under the Safe Drinking Water Act or the Federal Water Pollution Control Act. The definition for this Act is intended to ensure that each part of our nation's water supply system is addressed by this program and that each part receives the benefit of the information collected. This definition specifically includes both drinking water and wastewater systems for the same purpose.

Section 3. Water Infrastructure Security Grant Program

This section establishes the program. It requires the Administrator to establish a program to make grants to, and enter into cooperative agreements or contracts with, research institutions to improve the protection and security of water supply systems by car-

rying out eligible projects to address physical and cyber threats to water supply systems.

It requires that the Administrator consult with the Director of Central Intelligence to ensure that programs conducted under this Act appropriately protect classified information. This language reflects a request by the Senate Select Committee on Intelligence to ensure that this Act clearly states that any classified information that is produced or used by this program will be appropriately protected. This section includes procedures for the Administrator to consult with all other appropriate Federal agencies regarding guidelines, procedures, and criteria for the award of assistance under this program. The committee expects that as part of this process, the Administrator will work with the Federal Bureau of Investigation and other appropriate agencies to ensure that non-classified information of a sensitive nature is appropriately used and safeguarded.

This section describes the types of projects that will be eligible for assistance under this program to include projects that:

- (1) assess security issues for water supply systems by
 - a. conducting system-specific and system-wide assessments of the scope of and future implications of security issues for water supply systems; and
 - b. developing and refining vulnerability assessment tools for water supply systems to identify physical vulnerabilities, including biological, chemical, and radiological contamination; and cyber vulnerabilities;
- (2) protect water supply systems from a potential threat by:
 - a. developing technologies, processes, guidelines, standards, and procedures that protect
 - i. the physical assets of water supply systems, including protection from the impact of biological, chemical, and radiological contamination;
 - ii. information systems, including process controls and supervisory control and data acquisition; and
 - iii. cyber systems at water supply systems;
 - b. developing real-time monitoring systems to protect against biological, chemical, or radiological attack; and
 - c. developing educational and awareness programs for water supply systems;
- (3) develop technologies and processes for addressing the mitigation, response, and recovery of biological, chemical, and radiological contamination of water supply systems;
- (4) implement the requirements of Presidential Decision Directive 63 by refining and operating the Information Sharing and Analysis Center to capture and share information concerning threats, malevolent events, and best practices; and
- (5) test and evaluate new technologies and processes by—
 - a. developing regional pilot facilities to demonstrate upgraded security systems, assess new technologies, and determine the effect of enhanced security on operations and costs of the water supply system; or
 - b. conducting demonstrations of other technologies and processes to protect water supply systems.

This section also establishes selection criteria for awards of assistance. It requires that the Administrator establish guidelines,

procedures, and criteria for awards in consultation with representatives of appropriate Federal and State agencies, water supply systems, and other appropriate public and private entities. The committee expects that as part of this process, the Administrator will work with the Federal Bureau of Investigation and other appropriate agencies to ensure that non-classified information of a sensitive nature is appropriately used and safeguarded. The committee expects that classified information will be dealt with as described in section 3(b) of this Act.

This section requires that the Administrator ensure that projects carried out under this Act reflect the needs of water supply systems of various sizes and geographic areas of the United States. This language is intended to ensure that large and small, rural and urban, wealthy and disadvantaged systems in all areas of the country benefit from the information, technologies, and processes developed through this program. The committee intends to ensure that small, rural and disadvantaged systems receive an appropriate level of attention.

This section also establishes reporting requirements and deadlines. First, the Administrator is required to transmit a copy of the guidelines, procedures, and criteria established for awards under this program to the Committee on Science of the House of Representatives and the Committee on Environment and Public Works of the Senate. Second, this section provides for not more than a 30-day period after transmittal of these reports for the Administrator to publish the guidelines, procedures, and criteria in the Federal Register. Third, this section requires that the Administrator periodically submit to the Committee on Science of the House of Representatives and the Committee on Environment and Public Works of the Senate a report on the status of the program.

Assistance in any given year for an individual project is limited to \$1,000,000. This does not preclude one research institution from receiving more than \$1,000,000 in one year for more than one individual projects. It does not preclude a multi-year project from receiving \$1,000,000 more than one time.

The Federal share for testing and evaluation projects described in this section (subsection (c)(5)) shall be 50 percent. The Federal share for all other projects shall be 100 percent. The non-Federal share may be provided in cash or in-kind.

This section includes information sharing requirements to ensure that the information generated by this program is made available to all U.S. water systems. The Administrator is required to evaluate the results of the projects conducted under this program and, as soon as practicable, disseminate the results through the Information Sharing and Analysis Center or other appropriate means. The committee intends for the Administrator to ensure that sensitive information is safeguarded during this process, and that classified information is handled in accordance with section 3(b) of this Act.

Section 4. Authorization of Appropriations

This section authorizes \$12,000,000 per year for each of fiscal years 2002 through 2007, to remain available until expended.

Section 5. Assistance for Arsenic Requirements

This section provides that the Administrator shall use \$20,000,000 per year in 2002 and 2003 of unobligated funds to provide assistance for small water supply systems to comply with requirements relating to arsenic in drinking water. By including this language, the committee recognizes the commitment made by EPA Administrator in October 2001 to provide this level of funding over the next two years for research and development of more cost-effective technologies to help small systems to meet the new standard. The committee is aware of concerns raised regarding the potential cost of compliance with lower arsenic standards for small systems. The National Academy of Sciences, in a report released in September 2001, found that even at 3 ppb, the lowest level feasible to achieve, according to EPA's January 22, 2001 rule, the combined cancer risks are about 1 in 1000. The committee intends for the funds provided by this section to work to reduce the potential cost of compliance with lower arsenic standards for small systems to ensure that the level of protection of human health provided by the EPA's January 22, 2001 arsenic rule be available to individuals who are served not only by large systems but also by small systems.

Legislative History

Senators Jeffords, Smith of New Hampshire, and Crapo introduced S. 1593 on October 30, 2001. Senator Graham of Florida co-sponsored the bill on November 8, 2001. Senator Corzine co-sponsored the bill on November 6, 2001, and Senator Bingaman co-sponsored the bill on November 15, 2001.

HEARINGS

A hearing was held on S. 1593 and other infrastructure security bills on November 1, 2001 before the full committee. Witnesses included: Michael Brown, Deputy Director, Federal Emergency Management Agency, Washington, DC; Joe Moravec, Commissioner, Public Building Service, General Services Administration, Washington, DC; Dr. David Sampson, Assistant Secretary for Economic Development, Economic Development Administration, U.S. Department of Commerce, Washington, DC; Richard Meserve, Chairman, Nuclear Regulatory Commission, Rockville, MD; Herbert Mitchell, Associate Administrator for Disaster Assistance, Small Business Administration, Washington, DC; and Marianne L. Horinko, Assistant Administrator Office of Solid Waste and Emergency Response, Environmental Protection Agency, Washington, DC.

ROLLCALL VOTES

The Committee on Environment and Public Works met to consider S. 1593, a bill to authorize the Administrator of the Environmental Protection Agency to establish a grant program to support research projects on critical infrastructure protection for water supply systems, and for other purposes, on November 8, 2001. The committee adopted by voice vote an amendment in the form of a substitute offered by Senators Jeffords, Smith of New Hampshire, Crapo, and Graham, after adopting an amendment by Senator Jeffords by voice vote.

REGULATORY IMPACT STATEMENT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the committee makes evaluation of the regulatory impact of the reported bill.

The bill, S. 1593, requires that the Administrator of the EPA issue the guidelines, procedures, and criteria for administration of this program in the Federal Register. The bill will not cause any adverse impact on the personal privacy of individuals.

Mandates Assessment

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104-4), the committee finds that S. 1593 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on State, local, and tribal governments.

COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment control Act requires that a statement of the cost of the reported bill, prepared by the Congressional Budget Office, be included in the report. That statement follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, November 16, 2001.

Hon. JAMES JEFFORDS, *Chairman,*
Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 1593, the Water Infrastructure Security and Research Development Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Deborah Reis, who can be reached at 226-2860.

Sincerely,

DAN L. CRIPPEN

S. 1593 Water Infrastructure Security and Research Development Act, as ordered reported by the Senate Committee on Environment and Public Works on November 8, 2001

SUMMARY

S. 1593 would authorize the appropriation of \$72 million over the 2002-2007 period for the Environmental Protection Agency (EPA) to provide new grants to research institutions to carry out projects aimed at improving the protection and security of water supply systems, including protection from biological and chemical contamination.

In addition, enacting S. 1593 would authorize EPA to use \$40 million over the 2002-2003 period from funds previously appropriated (but not obligated) to provide assistance to small water supply systems to comply with new regulations on arsenic in drinking water. That additional spending is considered direct spending, so pay-as-you-go procedures would apply to the bill.

S. 1593 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, and tribal governments.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 1593 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment).

By Fiscal Year, in Millions of Dollars

	2002	2003	2004	2005	2006
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Authorization Level ¹	12	12	12	12	12
Estimated Outlays	5	10	12	12	12
CHANGES IN DIRECT SPENDING					
Estimated Budget Authority	0	0	0	0	0
Estimated Outlays	8	17	12	3	0

¹ S. 1593 also would authorize the appropriation of \$12 million for fiscal year 2007.

BASIS OF ESTIMATE

For this estimate, CBO assumes that the bill will be enacted by the end of calendar year 2001, that the full amounts authorized will be appropriated each fiscal year, and that outlays will occur at rates similar to past funding for EPA's Science and Technology programs. CBO estimates that implementing S. 1593 would increase spending subject to appropriation by \$51 million over the 2002–2006 period, with an additional \$21 million to be spent after 2006.

In addition, section 5 would authorize EPA to use \$40 million of funds previously appropriated (but not obligated) from its Safe Drinking Water State Revolving Fund program (or other programs) to provide grants to small water supply systems to comply with arsenic contamination requirements. Because this provision would allow EPA to spend funds that we estimate would not otherwise be used, we estimate this provision would increase direct spending by \$40 million over the next five years.

PAY-AS-YOU-GO CONSIDERATIONS

The Balanced Budget and Emergency Deficit Control Act sets up pay-as-you-go procedures for legislation affecting direct spending or receipts. The net changes in outlays that are subject to pay-as-you-go procedures are shown in the following table. For the purposes of enforcing pay-as-you-go procedures, only the effects in the budget year and the succeeding four years are counted.

By Fiscal Year, in Millions of Dollars

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Changes in outlays	8	17	12	3	0	0	0	0	0	0
Changes in receipts	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

S. 1593 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, and tribal governments. The bill would benefit state and local governments by establishing a grant program for research institutions, including public universities, to improve the protection and security of public water supply systems. In addition, S. 1593 would authorize \$40 million for small water supply systems to comply with requirements relating to arsenic in drinking water. Any costs associated with the grant programs would be considered a condition of aid.

Estimate Prepared by: Federal Costs: Susanne S. Mehlman Impact on State, Local, and Tribal Governments: Elyse Goldman Impact on the Private Sector: Cecil McPherson.

Estimate Approved by: Peter H. Fontaine Deputy Assistant Director for Budget Analysis.

CHANGES IN EXISTING LAW

Section 12 of rule XXVI of the Standing Rules of the Senate, provides that reports to the Senate should show changes in existing law made by the bill as reported. Passage of this bill will make no changes to existing law.

