

## Calendar No. 272

107<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION**S. 1593****[Report No. 107-118]**

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.

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## IN THE SENATE OF THE UNITED STATES

OCTOBER 30, 2001

Mr. JEFFORDS (for himself, Mr. SMITH of New Hampshire, Mr. CRAPO, Mr. GRAHAM, Mr. CORZINE, and Mr. BINGAMAN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

DECEMBER 10, 2001

Reported by Mr. JEFFORDS, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]**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.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “~~Water Infrastructure~~  
3 ~~Security and Research Development Act~~”.

4 **SEC. 2. DEFINITIONS.**

5 In this Act:

6 (1) ~~ADMINISTRATOR.~~—The term “Adminis-  
7 trator” means the Administrator of the Environ-  
8 mental Protection Agency.

9 (2) ~~CRITICAL INFRASTRUCTURE.~~—The term  
10 “critical infrastructure” means a facility or service,  
11 the disruption, incapacity, or destruction of which  
12 would have a debilitating impact on the defense, se-  
13 curity, health and safety, or long-term economic  
14 prosperity of the United States, as determined by  
15 the Administrator.

16 (3) ~~RESEARCH INSTITUTION.~~—

17 (A) ~~IN GENERAL.~~—The term “research in-  
18 stitution” means a public or private entity  
19 that—

20 (i) performs research to improve the  
21 security of water supply systems; and

22 (ii) complies with any applicable laws  
23 (including regulations) for the safe-  
24 guarding of sensitive information.

25 (B) ~~INCLUSION.~~—The term “research in-  
26 stitution” includes a national laboratory.

1           (4) WATER SUPPLY SYSTEM.—

2           (A) IN GENERAL.—The term “water sup-  
3           ply system” means a public water system (as  
4           defined in section 1401 of the Safe Drinking  
5           Water Act (42 U.S.C. 300f)) or a publicly  
6           owned treatment works (as defined in section  
7           212 of the Federal Water Pollution Control Act  
8           (33 U.S.C. 1292)).

9           (B) INCLUSIONS.—The term “water supply  
10          system” includes—

- 11           (i) a water source, including—  
12               (I) surface water in a lake, res-  
13               ervoir, or other impoundment;  
14               (II) flowing water in a river; or  
15               (III) ground water in an aquifer;  
16           (ii) a system of aqueducts, tunnels,  
17           reservoirs, or pumping facilities to convey  
18           water from the water source;  
19           (iii) a treatment facility;  
20           (iv) a distribution system carrying fin-  
21           ished water to users through a system of  
22           mains and subsidiary pipes; or  
23           (v) a wastewater collection and treat-  
24           ment system.

1 **SEC. 3. WATER INFRASTRUCTURE SECURITY GRANT PRO-**  
 2 **GRAM.**

3 (a) IN GENERAL.—The Administrator may establish  
 4 a program under which the Administrator shall make  
 5 grants to and enter into cooperative agreements with re-  
 6 search institutions to improve the protection and security  
 7 of public water supply systems by—

8 (1) carrying out eligible projects described in  
 9 subsection (b) on technologies and processes that ad-  
 10 dress physical and cyber threats to water supply sys-  
 11 tems;

12 (2) improving information sharing and analysis  
 13 efforts among research institutions; and

14 (3) providing technical assistance and training  
 15 to research institutions.

16 (b) ELIGIBLE PROJECTS.—To be eligible for assist-  
 17 ance under subsection (a), a project shall—

18 (1) assess security issues for water supply sys-  
 19 tems by—

20 (A) conducting system-specific and system-  
 21 wide assessments of the scope of and future im-  
 22 plications of security issues for water supply  
 23 systems; and

24 (B) developing and refining vulnerability  
 25 assessment tools for water supply systems to  
 26 identify—

1 (i) physical vulnerabilities, including  
2 biological, chemical, and radiological con-  
3 tamination; and

4 (ii) cyber vulnerabilities;

5 (2) protect water supply systems from a poten-  
6 tial threat by—

7 (A) developing technologies, processes,  
8 guidelines, standards, and procedures that  
9 protect—

10 (i) the physical assets of water supply  
11 systems, including protection from the im-  
12 pact of biological, chemical, and radio-  
13 logical contamination;

14 (ii) information systems, including  
15 process controls and supervisory control  
16 and data acquisition; and

17 (iii) cyber systems at water supply  
18 systems;

19 (B) developing real-time monitoring sys-  
20 tems to protect against biological, chemical, or  
21 radiological attack; and

22 (C) developing educational and awareness  
23 programs for water supply systems;

24 (3) develop technologies and processes for ad-  
25 dressing the mitigation, response and recovery of bi-

ological, 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 threats, malevolent events, and best prac-  
tices; 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; and

(B) study physical security and cyber secu-  
rity at water supply systems.

(c) SELECTION CRITERIA.—

(1) IN GENERAL.—The Administrator, in con-  
sultation with the water sector advisory group estab-  
lished by the water sector coordinator on infrastruc-  
ture security, shall establish guidelines, procedures,  
and criteria for the award of grants and other forms  
of financial assistance under subsection (a).

(2) REQUIREMENTS.—The Administrator shall  
ensure that a project carried out under this Act re-

1       fleets the needs of water supply systems of various  
2       sizes and geographic areas of the United States.

3           ~~(3)~~ PUBLICATION.—The Administrator shall  
4       publish the guidelines, procedures, and criteria es-  
5       tablished under paragraph (1) in the Federal Reg-  
6       ister.

7       ~~(d)~~ APPLICATION.—To be eligible for assistance  
8       under subsection (a), a research institution shall submit  
9       a grant application that—

10           (1) provides for collaboration between research-  
11       ers, research institutions, and water system per-  
12       sonnel, staff, and managers;

13           (2) includes a plan for satisfying the require-  
14       ments established under subsection (b) and (c)(1);  
15       and

16           ~~(3)~~ demonstrates compliance with Federal re-  
17       quirements for safeguarding sensitive information.

18       ~~(e)~~ AMOUNT.—A grant to any 1 project carried out  
19       under this Act shall not exceed \$1,000,000.

20       ~~(f)~~ COST-SHARING.—

21           (1) FEDERAL SHARE.—The Federal share of  
22       the cost of carrying out a project under subsection  
23       ~~(b)(5)~~ shall be 50 percent.

24           ~~(2)~~ NON-FEDERAL SHARE.—The non-Federal  
25       share of the cost of carrying out a project under

1 subsection (b)(5) may be provided in the form of in-  
 2 kind goods or services.

3 ~~(g) INFORMATION SHARING.~~—As soon as practicable  
 4 after the results of a project carried out under this Act  
 5 have been evaluated, the Administrator shall disseminate  
 6 to water supply systems information on the results of the  
 7 project through—

8 (1) the Information Sharing and Analysis Cen-  
 9 ter; or

10 (2) other appropriate means.

11 **SEC. 4. AUTHORIZATION OF APPROPRIATIONS.**

12 There is authorized to be appropriated to carry out  
 13 this Act \$12,000,000 for each of fiscal years 2002 through  
 14 2007, to remain available until expended.

15 **SECTION 1. SHORT TITLE.**

16 *This Act may be cited as the “Water Infrastructure*  
 17 *Security and Research Development Act”.*

18 **SEC. 2. DEFINITIONS.**

19 *In this Act:*

20 (1) *ADMINISTRATOR.*—The term “Adminis-  
 21 trator” means the Administrator of the Environ-  
 22 mental Protection Agency.

23 (2) *RESEARCH INSTITUTION.*—



1           (A) *IN GENERAL.*—The term “research in-  
 2           stitution” means a public or private nonprofit  
 3           institution or other entity that—

4                   (i) has the expertise to perform re-  
 5                   search on the security of water supply sys-  
 6                   tems; and

7                   (ii) complies with any applicable laws  
 8                   (including regulations) for the safeguarding  
 9                   of sensitive information.

10          (B) *INCLUSION.*—The term “research insti-  
 11          tution” includes a national laboratory.

12          (3) *WATER SUPPLY SYSTEM.*—

13           (A) *IN GENERAL.*—The term “water supply  
 14           system” means a public water system (as defined  
 15           in section 1401 of the Safe Drinking Water Act  
 16           (42 U.S.C. 300f)) or a publicly owned treatment  
 17           works (as defined in section 212 of the Federal  
 18           Water Pollution Control Act (33 U.S.C. 1292)).

19           (B) *INCLUSIONS.*—For the purposes of this  
 20           Act only, the term “water supply system”  
 21           includes—

22                   (i) a water source, including—

23                           (I) surface water in a lake, res-  
 24                           ervoir, or other impoundment;

25                           (II) flowing water in a river; or

- 1 (III) ground water in an aquifer;  
2 (ii) a system of aqueducts, tunnels, res-  
3 ervoirs, or pumping facilities to convey  
4 water from the water source;  
5 (iii) a treatment facility;  
6 (iv) a distribution system carrying fin-  
7 ished water to users through a system of  
8 mains and subsidiary pipes; or  
9 (v) a wastewater collection and treat-  
10 ment system.

11 **SEC. 3. WATER INFRASTRUCTURE SECURITY GRANT PRO-**  
12 **GRAM.**

13 (a) *IN GENERAL.*—The Administrator shall establish  
14 a program under which the Administrator shall make  
15 grants to, and enter into cooperative agreements with, re-  
16 search institutions to improve the protection and security  
17 of water supply systems by carrying out eligible projects  
18 described in subsection (c) on technologies and processes  
19 that address physical and cyber threats to water supply sys-  
20 tems.

21 (b) *CONSULTATION.*—The Administrator shall consult  
22 with the Director of Central Intelligence to ensure that pro-  
23 grams conducted pursuant to this Act appropriately protect  
24 classified information.

1       (c) *ELIGIBLE PROJECTS.*—*To be eligible for assistance*  
2     *under subsection (a), a project shall—*

3             (1) *assess security issues for water supply sys-*  
4     *tems by—*

5                 (A) *conducting system-specific and system-*  
6                 *wide assessments of the scope of and future im-*  
7                 *plications of security issues for water supply sys-*  
8                 *tems; and*

9                 (B) *developing and refining vulnerability*  
10                *assessment tools for water supply systems to*  
11                *identify—*

12                     (i) *physical vulnerabilities, including*  
13                     *biological, chemical, and radiological con-*  
14                     *tamination; and*

15                     (ii) *cyber vulnerabilities;*

16             (2) *protect water supply systems from a poten-*  
17     *tial threat by—*

18                 (A) *developing technologies, processes, guide-*  
19                 *lines, standards, and procedures that protect—*

20                     (i) *the physical assets of water supply*  
21                     *systems, including protection from the im-*  
22                     *pact of biological, chemical, and radio-*  
23                     *logical contamination;*

1                   (ii) information systems, including  
 2                   process controls and supervisory control and  
 3                   data acquisition; and

4                   (iii) cyber systems at water supply  
 5                   systems;

6                   (B) developing real-time monitoring systems  
 7                   to protect against biological, chemical, or radio-  
 8                   logical attack; and

9                   (C) developing educational and awareness  
 10                  programs for water supply systems;

11               (3) develop technologies and processes for ad-  
 12               dressing the mitigation, response, and recovery of bio-  
 13               logical, chemical, and radiological contamination of  
 14               water supply systems;

15               (4) implement the requirements of Presidential  
 16               Decision Directive 63 by refining and operating the  
 17               Information Sharing and Analysis Center to capture  
 18               and share information concerning threats, malevolent  
 19               events, and best practices; or

20               (5) test and evaluate new technologies and proc-  
 21               esses by—

22                   (A) developing regional pilot facilities to  
 23                   demonstrate upgraded security systems, assess  
 24                   new technologies, and determine the effect of en-

1           *hanced security on operations and costs of the*  
 2           *water supply system; or*

3           *(B) conducting demonstrations of other tech-*  
 4           *nologies and processes to protect water supply sys-*  
 5           *tems.*

6           *(d) SELECTION CRITERIA.—*

7           *(1) IN GENERAL.—The Administrator, in con-*  
 8           *sultation with representatives of appropriate Federal*  
 9           *and State agencies, water supply systems, and other*  
 10          *appropriate public and private entities, shall estab-*  
 11          *lish guidelines, procedures, and criteria for the award*  
 12          *of assistance under subsection (a).*

13          *(2) REQUIREMENTS.—The Administrator shall*  
 14          *ensure that projects carried out under this Act reflect*  
 15          *the needs of water supply systems of various sizes and*  
 16          *geographic areas of the United States.*

17          *(3) TRANSMISSION TO CONGRESS.—The Admin-*  
 18          *istrator shall transmit to the Committee on Science of*  
 19          *the House of Representatives and the Committee on*  
 20          *Environment and Public Works of the Senate a copy*  
 21          *of the guidelines, procedures, and criteria established*  
 22          *under paragraph (1).*

23          *(4) PUBLICATION.—Not earlier than 30 days*  
 24          *after the date on which the Administrator transmits*  
 25          *to Congress the guidelines, procedures, and criteria*

1        *under paragraph (3), the Administrator shall publish*  
 2        *the guidelines, procedures, and criteria in the Federal*  
 3        *Register.*

4        *(e) AMOUNT.—Assistance with respect to any 1 project*  
 5        *carried out under this Act shall not exceed \$1,000,000 in*  
 6        *any 1 year.*

7        *(f) COST SHARING.—*

8                *(1) FEDERAL SHARE.—The Federal share of the*  
 9        *cost of carrying out—*

10                *(A) a project under subsection (c)(5) shall*  
 11                *be 50 percent; and*

12                *(B) a project under paragraphs (1) through*  
 13                *(4) of subsection (c) shall be 100 percent.*

14                *(2) NON-FEDERAL SHARE.—The non-Federal*  
 15        *share of the cost of carrying out a project under sub-*  
 16        *section (c)(5) may be provided in cash or in-kind.*

17        *(g) INFORMATION SHARING.—As soon as practicable*  
 18        *after the results of a project carried out under this Act have*  
 19        *been evaluated, the Administrator shall disseminate to*  
 20        *water supply systems information on the results of the*  
 21        *project through—*

22                *(1) the Information Sharing and Analysis Cen-*  
 23        *ter; or*

24                *(2) other appropriate means.*

1       (h) *REPORT.*—*The Administrator shall, as appro-*  
2 *priate, periodically submit to the Committee on Science of*  
3 *the House of Representatives and the Committee on Envi-*  
4 *ronment and Public Works of the Senate a report on the*  
5 *status of the program established under subsection (a).*

6 **SEC. 4. AUTHORIZATION OF APPROPRIATIONS.**

7       *There is authorized to be appropriated to carry out*  
8 *this Act \$12,000,000 for each of fiscal years 2002 through*  
9 *2007, to remain available until expended.*

10 **SEC. 5. ASSISTANCE FOR ARSENIC REQUIREMENTS.**

11       *For each of fiscal years 2002 and 2003, from unobli-*  
12 *gated funds available to the Administrator, the Adminis-*  
13 *trator shall use \$20,000,000 to provide assistance for small*  
14 *water supply systems to comply with requirements relating*  
15 *to arsenic in drinking water.*

**Calendar No. 272**

107TH CONGRESS  
1ST SESSION

**S. 1593**

**[Report No. 107-118]**

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**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.

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DECEMBER 10, 2001

Reported with an amendment