

108TH CONGRESS
2D SESSION

S. 2658

To establish a Department of Energy National Laboratories water technology research and development program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 14, 2004

Mr. DOMENICI (for himself, Mrs. FEINSTEIN, Mr. CRAIG, Mr. BINGAMAN, and Mr. DURBIN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To establish a Department of Energy National Laboratories water technology research and development program, 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,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Department of Energy
5 National Laboratories Water Technology Research and
6 Development Act”.

7 **SEC. 2. PURPOSE.**

8 The purpose of this Act is to establish within the De-
9 partment of Energy a program for research on and the

1 development of economically viable technologies that
2 would—

3 (1) substantially improve access to existing
4 water resources;

5 (2) promote improved access to untapped water
6 resources;

7 (3) facilitate the widespread commercialization
8 of newly developed water supply technologies for use
9 in real-world applications;

10 (4) provide objective analyses of, and propose
11 changes to, current water supply laws and policies
12 relating to the implementation and acceptance of
13 new water supply technologies developed under the
14 program; and

15 (5) facilitate collaboration among Federal agen-
16 cies in the conduct of research under this Act and
17 otherwise provide for the integration of research on,
18 and disclosure of information relating to, water sup-
19 ply technologies.

20 **SEC. 3. DEFINITIONS.**

21 In this Act:

22 (1) **ADVISORY PANEL.**—The term “Advisory
23 Panel” means the National Water Supply Tech-
24 nology Advisory Panel established under section
25 5(a).

1 (2) INSTITUTE.—The term “Institute” means
2 the National Water Supply Law and Policy Institute
3 designated by section 8(a).

4 (3) PROGRAM.—The term “program” means
5 the National Laboratories water technology research
6 and development program established under section
7 4(a).

8 (4) PROGRAM COORDINATOR.—The term “Pro-
9 gram Coordinator” means the individual appointed
10 to administer the program under section 4(c).

11 (5) REGIONAL CENTER.—The term “Regional
12 Center” means a Regional Center designated under
13 subsection (b) or (e) of section 6.

14 (6) SECRETARY.—The term “Secretary” means
15 the Secretary of Energy.

16 (7) WATER SUPPLY TECHNOLOGY.—The term
17 “water supply technology” means a technology that
18 is designed to improve water quality, make more ef-
19 ficient use of existing water resources, or develop po-
20 tential water resources, including technologies for—

21 (A) reducing water consumption in the
22 production or generation of energy;

23 (B) desalination and related concentrate
24 disposal;

25 (C) water reuse;

1 (D) contaminant removal, such as toxics
 2 identified by the Environmental Protection
 3 Agency and new and emerging contaminants
 4 (including perchlorate and nitrates);

5 (E) agriculture, industrial, and municipal
 6 efficiency; and

7 (F) water monitoring and systems anal-
 8 ysis.

9 **SEC. 4. NATIONAL LABORATORIES WATER TECHNOLOGY**
 10 **RESEARCH AND DEVELOPMENT PROGRAM.**

11 (a) ESTABLISHMENT.—The Secretary shall establish
 12 a National Laboratories water technology research and de-
 13 velopment program for research on, and the development
 14 and commercialization of, water supply technologies.

15 (b) PROGRAM LEAD LABORATORY.—The program
 16 shall be carried out by the National Laboratories, with
 17 Sandia National Laboratory designated as the lead labora-
 18 tory for the program.

19 (c) PROGRAM COORDINATOR.—

20 (1) IN GENERAL.—The Secretary shall appoint
 21 an individual at Sandia National Laboratory as the
 22 Program Coordinator to administer the program.

23 (2) DUTIES.—In carrying out the program, the
 24 Program Coordinator shall—

1 (A) establish budgetary and contracting
2 procedures for the program;

3 (B) perform administrative duties relating
4 to the program;

5 (C) provide grants under section 7;

6 (D) conduct peer review of water supply
7 technology proposals and research results;

8 (E) establish procedures to determine
9 which water supply technologies would most im-
10 prove water quality, make the most efficient use
11 of existing water resources, and provide opti-
12 mum development of potential water resources;

13 (F) coordinate budgets for water supply
14 technology research at Regional Centers;

15 (G) coordinate research carried out under
16 the program, including research carried out by
17 Regional Centers;

18 (H) perform annual evaluations of research
19 progress made by grant recipients and Regional
20 Centers;

21 (I) establish a water supply technology
22 transfer program to identify, and facilitate com-
23 mercialization of, promising water supply tech-
24 nologies, including construction and implemen-
25 tation of demonstration facilities, partnerships

1 with industry consortia, and collaboration with
 2 other Federal programs;

3 (J) establish procedures and criteria for
 4 the Advisory Panel to use in reviewing Regional
 5 Center performance;

6 (K) widely distribute information on the
 7 program, including through research con-
 8 ferences; and

9 (L) implement cross-cutting research to
 10 develop sensor and monitoring systems for
 11 water and energy efficiency and management.

12 **SEC. 5. NATIONAL WATER SUPPLY TECHNOLOGY ADVISORY**
 13 **PANEL.**

14 (a) ESTABLISHMENT.—The Secretary shall establish
 15 an advisory panel, to be known as the “National Water
 16 Supply Technology Advisory Panel”, to advise the Pro-
 17 gram Coordinator on the direction of the program and fa-
 18 cilitating the commercialization of the water supply tech-
 19 nologies developed under the program.

20 (b) MEMBERSHIP.—Members of the Advisory Panel
 21 shall—

22 (1) have expertise in water supply technology;
 23 and

24 (2) be representative of educational institutions,
 25 industry, States, local government, international

1 water technology institutions, other Federal agen-
 2 cies, and nongovernmental organizations.

3 (c) ASSESSMENT RESPONSIBILITIES.—In addition to
 4 other responsibilities, the Advisory Panel shall—

5 (1) periodically assess the performance of the
 6 National Laboratories and universities designated as
 7 Regional Centers under section 6; and

8 (2) make recommendations to the Secretary for
 9 renewing the designation of Regional Centers.

10 **SEC. 6. REGIONAL CENTERS.**

11 (a) IN GENERAL.—A Regional Center shall—

12 (1) consist of 1 National Laboratory designated
 13 under subsection (b) or (e), acting in partnership
 14 with 1 or more universities selected under subsection
 15 (c); and

16 (2) be eligible for a grant under section 7(a) for
 17 the conduct of research on the specific water supply
 18 technologies identified under subsection (b) or (e).

19 (b) INITIAL REGIONAL CENTERS.—There are des-
 20 ignated as Regional Centers—

21 (1) the Northeast Regional Center, consisting
 22 of the Brookhaven National Laboratory and any
 23 university partners selected under subsection (c),
 24 which shall conduct research on reducing water qual-

1 ity impacts from power plant outfall and decentral-
 2 ized (soft-path) water treatment;

3 (2) the Central Atlantic Regional Center, con-
 4 sisting of the National Energy Technology Labora-
 5 tory and any university partners selected under sub-
 6 section (c), which shall conduct research on pro-
 7 duced water purification and use for power produc-
 8 tion and water reuse for large cities;

9 (3) the Southeast Regional Center, consisting of
 10 the Oak Ridge National Laboratory and any univer-
 11 sity partners selected under subsection (c), which
 12 shall conduct research on—

13 (A) shallow aquifer conjunctive water use;

14 (B) energy reduction for sea water desali-
 15 nation; and

16 (C) membrane technology development;

17 (4) the Midwest Regional Center, consisting of
 18 the Argonne National Laboratory and any university
 19 partners selected under subsection (c), which shall
 20 conduct research on—

21 (A) water efficiency in manufacturing; and

22 (B) energy reduction in wastewater treat-
 23 ment;

24 (5) the Central Regional Center, consisting of
 25 the Idaho National Engineering and Environmental

1 Laboratory and any university partners selected
2 under subsection (c), which shall conduct research
3 on—

4 (A) cogeneration of nuclear power and
5 water;

6 (B) energy systems for pumping irrigation;
7 and

8 (C) watershed management;

9 (6) the West Regional Center, consisting of the
10 Pacific Northwest National Laboratory and any uni-
11 versity partners selected under subsection (c), which
12 shall conduct research on conjunctive management
13 of hydropower and mining water reuse, including
14 separations processes;

15 (7) the Southwest Regional Center, consisting
16 of the Los Alamos National Laboratory and any uni-
17 versity partners selected under subsection (c), which
18 shall conduct research on—

19 (A) water for power production in arid en-
20 vironments;

21 (B) energy reduction and waste disposal
22 for brackish desalination;

23 (C) high water and energy efficiency in
24 arid agriculture; and

1 (D) transboundary water management;
 2 and

3 (8) the Pacific Regional Center, consisting of
 4 the Lawrence Livermore National Laboratory and
 5 any university partners selected under subsection
 6 (c), which shall conduct research on—

7 (A) point of use technology, water treat-
 8 ment, and conveyance energy reduction;

9 (B) co-located energy production and water
 10 treatment; and

11 (C) water reuse for agriculture.

12 (c) SELECTION OF UNIVERSITY PARTNERS.—Not
 13 later than 180 days after the date on which a National
 14 Laboratory is designated under subsection (b) or (e), each
 15 National Laboratory, in consultation with the Program
 16 Coordinator and the Advisory Panel, shall select a primary
 17 university partner and may nominate additional university
 18 partners.

19 (d) OPERATIONAL PROCEDURES.—Not later than 1
 20 year after the date of enactment of this Act, a Regional
 21 Center designated by subsection (b) shall submit to the
 22 Program Coordinator operational procedures for the Re-
 23 gional Center.

24 (e) ADDITIONAL REGIONAL CENTERS.—Subject to
 25 approval by the Advisory Panel, the Program Coordinator

1 may, not sooner than 5 years after the date of enactment
2 of this Act, designate not more than 4 additional Regional
3 Centers if the Program Coordinator determines that there
4 are additional water supply technologies that need to be
5 researched.

6 (f) PERIOD OF DESIGNATION.—

7 (1) IN GENERAL.—A designation by subsection
8 (b) or under subsection (c) shall be for a period of
9 5 years.

10 (2) ASSESSMENT.—A Regional Center shall be
11 subject to periodic assessments by the Program Co-
12 ordinator in accordance with procedures and criteria
13 established under section 4(b)(2)(K)(i).

14 (3) RENEWAL.—After the initial period under
15 paragraph (1), a designation may be renewed for
16 subsequent 5-year periods by the Program Coordi-
17 nator in accordance with procedures and criteria es-
18 tablished under section 4(b)(2)(K)(ii).

19 (4) TERMINATION OR NONRENEWAL.—

20 (A) IN GENERAL.—Based on a periodic as-
21 sessment conducted under paragraph (2), in ac-
22 cordance with the procedures and criteria estab-
23 lished under section 4(b)(2)(K)(iii), and after
24 review by the Advisory Panel, the Program Co-
25 ordinator may recommend that the Secretary

1 terminate or determine not to renew the des-
2 ignation of a Regional Center.

3 (B) TERMINATION.—Following a rec-
4 ommendation for termination or nonrenewal by
5 the Program Coordinator, the Secretary may
6 terminate or choose not to renew the designa-
7 tion of a Regional Center.

8 (g) EXECUTIVE DIRECTOR.—A Regional Center shall
9 be administered by an executive director, subject to ap-
10 proval by the Program Coordinator.

11 (h) PUBLICATION OF RESEARCH RESULTS.—A Re-
12 gional Center shall periodically publish the results of any
13 research carried out under the program in appropriate
14 peer-reviewed journals.

15 **SEC. 7. PROGRAM GRANTS.**

16 (a) BLOCK GRANTS TO REGIONAL CENTERS.—

17 (1) IN GENERAL.—The Program Coordinator
18 shall, subject to the availability of appropriations,
19 provide a block grant to a Regional Center for the
20 conduct of research in the specific area identified for
21 the Research Center under section 6(b).

22 (2) DISTRIBUTION.—Of the amounts made
23 available to a Regional Center under paragraph (1),
24 50 percent shall be distributed to the university
25 partners selected under section 6(c), in accordance

1 with the operational procedures for the Regional
 2 Center developed under section 6(d).

3 (3) COST-SHARING REQUIREMENT.—A National
 4 Laboratory or university partner that receives a
 5 grant provided under this subsection shall not be
 6 subject to a cost-sharing requirement.

7 (b) GRANTS TO COLLABORATIVE INSTITUTIONS.—

8 (1) IN GENERAL.—The Program Coordinator
 9 shall provide competitive grants to eligible collabo-
 10 rative institutions for water supply technology re-
 11 search, development, and demonstration projects.

12 (2) ELIGIBLE COLLABORATIVE INSTITU-
 13 TIONS.—The following are eligible for grants under
 14 paragraph (1):

15 (A) Nongovernmental organizations.

16 (B) National Laboratories.

17 (C) Private corporations.

18 (D) Industry consortia.

19 (E) Universities or university consortia.

20 (F) International research consortia.

21 (G) Any other entity with expertise in the
 22 conduct of research on water supply tech-
 23 nologies.

24 (3) DISTRIBUTION.—Of the amounts made
 25 available for grants under paragraph (1)—

1 (A) not less than 15 percent or more than
 2 25 percent shall be provided as block grants to
 3 nongovernmental organizations, which may be
 4 redistributed by the nongovernmental organiza-
 5 tion to individual projects;

6 (B) not less than 20 percent or more than
 7 30 percent shall be provided to National Lab-
 8 oratories;

9 (C) not less than 15 percent or more than
 10 25 percent shall be provided to support indi-
 11 vidual projects that are recommended by at
 12 least 1 other Federal Agency; and

13 (D) any amounts remaining after the dis-
 14 tributions under subparagraphs (A) through
 15 (C) may be provided to support individual
 16 projects, as the Program Coordinator deter-
 17 mines to be appropriate.

18 (4) COST-SHARING REQUIREMENTS.—

19 (A) GRANTS TO NONGOVERNMENTAL OR-
 20 GANIZATIONS AND INDIVIDUAL PROJECTS.—
 21 The non-Federal share of the total cost of any
 22 project assisted under subparagraphs (A) or (C)
 23 of paragraph (3) shall be 50 percent.

24 (B) GRANTS TO NATIONAL LABORA-
 25 TORIES.—A National Laboratory that receives a

1 grant under paragraph (3)(B) shall not be sub-
2 ject to a cost-sharing requirement.

3 (C) GRANTS TO OTHER ENTITIES.—The
4 non-Federal share of the total cost of any
5 project assisted under paragraph (3)(D) shall
6 be 25 percent.

7 (5) TERM OF GRANT.—

8 (A) IN GENERAL.—Except as provided in
9 subparagraph (B), a grant provided under
10 paragraph (1) shall be for a term of 2 years.

11 (B) RENEWAL.—The Program Coordinator
12 may renew a grant for up to 2 additional years
13 as the Program Coordinator determines to be
14 appropriate.

15 (6) TREATMENT OF FUNDS.—Amounts received
16 under a grant provided to a non-Federal entity
17 under this subsection shall be considered to be non-
18 Federal funds when used as matching funds by the
19 non-Federal entity toward a Federal cost-shared
20 project conducted under another program.

21 (7) CRITERIA.—The Program Coordinator shall
22 establish criteria for the submission and review of
23 grant applications and the provision of grants under
24 paragraph (1).

1 **SEC. 8. NATIONAL WATER SUPPLY LAW AND POLICY INSTI-**
 2 **TUTE.**

3 (a) DESIGNATION.—The Utton Center at the Univer-
 4 sity of New Mexico Law School is designated as the Na-
 5 tional Water Supply Law and Policy Institute.

6 (b) DUTIES.—The Institute shall—

7 (1) establish a database of existing water laws,
 8 regulations, and policy;

9 (2) provide legal, regulatory, and policy alter-
 10 natives to increase national and international water
 11 supplies;

12 (3) consult with the Regional Centers, other
 13 participants in the program (including States), and
 14 other interested persons, on water law and policy
 15 and the effect of that policy on the development and
 16 commercialization of water supply technologies; and

17 (4) conduct an annual water law and policy
 18 seminar to provide information on research carried
 19 out or funded by the Institute.

20 (c) PARTNERSHIPS.—The Institute may enter into
 21 partnerships with other institutions to assist in carrying
 22 out the duties of the Institute under subsection (b).

23 (d) EXECUTIVE DIRECTOR.—The Institute shall be
 24 administered by an executive director, to be appointed by
 25 the dean of the University of New Mexico Law School,
 26 in consultation with the Program Coordinator.

1 **SEC. 9. REPORTS.**

2 (a) REPORTS TO PROGRAM COORDINATOR.—Any Re-
3 gional Center, National Laboratory, or collaborative insti-
4 tution that receives a grant under section 7 shall submit
5 to the Program Coordinator an annual report on activities
6 carried out using amounts made available under this Act
7 during the preceding fiscal year.

8 (b) REPORT TO CONGRESS.—Not later than 3 years
9 after the date of enactment of this Act and each year
10 thereafter, the Program Coordinator shall submit to the
11 Secretary and Congress a report that describes the activi-
12 ties carried out under this Act.

13 **SEC. 10. AUTHORIZATION OF APPROPRIATIONS.**

14 (a) IN GENERAL.—There are authorized to be appro-
15 priated to the Secretary for fiscal year 2005 and each sub-
16 sequent fiscal year—

17 (1) for the administration of the program by
18 the Program Coordinator and the construction of
19 any necessary program facilities, \$25,000,000; and

20 (2) for research and development carried out
21 under the program, \$200,000,000.

22 (b) ALLOCATION.—Of amounts made available under
23 subsection (a)(2) for a fiscal year—

24 (1) at least 15 percent shall be made available
25 for the water supply technology transfer program es-
26 tablished under section 4(b)(2)(I);

1 (2) the lesser of \$10,000,000 or 5 percent shall
2 be made available for grants under section 7(a);

3 (3) at least 30 percent shall be made available
4 for grants to collaborative institutions under section
5 7(b); and

6 (4) the lesser of \$10,000,000 or 5 percent shall
7 be made available for the Institute.

○