

105TH CONGRESS
1ST SESSION

S. 910

To authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1998 and 1999, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JUNE 16, 1997

Mr. FRIST introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1998 and 1999, 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. AUTHORIZATION OF APPROPRIATIONS.**

4 Section 12 of the Earthquake Hazards Reduction Act
5 of 1977 (42 U.S.C. 7706) is amended—

6 (1) in subsection (a)(7)—

7 (A) by striking “and” after “1995,”; and

8 (B) by inserting before the period at the

9 end the following: “, \$19,228,000 for the fiscal

10 year ending September 30, 1998, and

1 \$19,804,000 for the fiscal year ending Septem-
2 ber 30, 1999”;

3 (2) in subsection (b)—

4 (A) by striking “and” after “September
5 30, 1995;”;

6 (B) by inserting before the period at the
7 end the following: “; \$51,142,000 for the fiscal
8 year ending September 30, 1998; and
9 \$52,676,000 for the fiscal year ending Septem-
10 ber 30, 1999”;

11 (3) in subsection (c)—

12 (A) by striking “and” at the end of para-
13 graph (1); and

14 (B) by inserting before the period at the
15 end the following: “, (3) \$18,450,000 for engi-
16 neering research and \$11,920,000 for geo-
17 sciences research for the fiscal year ending Sep-
18 tember 30, 1998, and (4) \$19,000,000 for engi-
19 neering research and \$12,280,000 for geo-
20 sciences research for the fiscal year ending Sep-
21 tember 30, 1999”;

22 (4) in the last sentence of subsection (d)—

23 (A) by striking “and” after “September
24 30, 1995;”;

1 (B) by inserting before the period at the
 2 end the following: “, \$2,000,000 for the fiscal
 3 year ending September 30, 1998, and
 4 \$2,060,000 for the fiscal year ending Septem-
 5 ber 30, 1999”.

6 **SEC. 2. REAL-TIME SEISMIC HAZARD WARNING SYSTEM DE-**
 7 **VELOPMENT AND PHASED DEPLOYMENT.**

8 (a) **AUTOMATIC SEISMIC WARNING SYSTEM DEVEL-**
 9 **OPMENT AND PHASED DEPLOYMENT.—**

10 (1) **DEFINITIONS.—**In this section:

11 (A) **DIRECTOR.—**The term “Director”
 12 means the Director of the United States Geo-
 13 logical Survey.

14 (B) **HIGH-RISK ACTIVITY.—**The term
 15 “high-risk activity” means an activity that may
 16 be adversely affected by a moderate to severe
 17 seismic event (as determined by the Director).
 18 The term includes high-speed rail transpor-
 19 tation.

20 (C) **REAL-TIME SEISMIC WARNING SYS-**
 21 **TEM.—**The term “real-time seismic warning
 22 system” means a system that issues warnings
 23 in real-time from a network of seismic sensors
 24 to a set of analysis processors, directly to re-
 25 ceivers related to high-risk activities.

1 (2) IN GENERAL.—The Director shall conduct a
2 program to develop and deploy a real-time seismic
3 warning system. The Director may use funds made
4 available to the Director pursuant to this section to
5 provide for a joint program with an entity that the
6 Director determines to be appropriate to develop and
7 deploy a real-time seismic warning system. The Di-
8 rector may enter into such agreements or contracts
9 as may be necessary to carry out the program.

10 (3) UPGRADE OF SEISMIC SENSORS.—In carry-
11 ing out a program under paragraph (2), in order to
12 increase the accuracy and speed of seismic event
13 analysis to provide for timely warning signals, the
14 Director shall provide for the upgrading of the net-
15 work of seismic sensors in existence at the time of
16 the establishment of the program to increase the ca-
17 pability of the sensors—

18 (A) to measure accurately large magnitude
19 seismic events (as determined by the Director);
20 and

21 (B) to acquire additional parametric data.

22 (4) DEVELOPMENT OF COMMUNICATIONS AND
23 COMPUTATION INFRASTRUCTURE.—In carrying out a
24 program under paragraph (2), the Director shall de-

1 velop a communications and computation infrastruc-
2 ture that is necessary—

3 (A) to process the data obtained from the
4 upgraded seismic sensor network referred to in
5 paragraph (3); and

6 (B) to provide for, and carry out, such
7 communications engineering and development
8 as is necessary to facilitate—

9 (i) the timely flow of data within a
10 real-time seismic hazard warning system;

11 and

12 (ii) the issuance of warnings to receiv-
13 ers related to high-risk activities.

14 (5) PROCUREMENT OF COMPUTER HARDWARE
15 AND COMPUTER SOFTWARE.—In carrying out a pro-
16 gram under paragraph (2), the Director shall pro-
17 cure such computer hardware and computer soft-
18 ware as may be necessary to carry out the program.

19 (6) REPORTS ON PROGRESS.—

20 (A) IN GENERAL.—Not later than 120
21 days after the date of enactment of this Act,
22 the Director shall prepare and submit to Con-
23 gress a report that contains a plan for imple-
24 menting a real-time seismic hazard warning
25 system.

1 (B) ADDITIONAL REPORTS.—Not later
2 than 1 year after the date on which the Direc-
3 tor submits the report under subparagraph (A),
4 and annually thereafter, the Director shall pre-
5 pare and submit to Congress a report that sum-
6 marizes the progress of the Director in imple-
7 menting the plan referred to in subparagraph
8 (A).

9 (7) AUTHORIZATION OF APPROPRIATIONS.—In
10 addition to the amounts made available to the Direc-
11 tor under section 12(b) of the Earthquake Hazards
12 Reduction Act of 1977 (42 U.S.C. 7706(b)), there
13 are authorized to be appropriated to the Department
14 of the Interior, to be used by the Director to carry
15 out this section, \$10,000,000 for each of fiscal years
16 1998 and 1999.

17 (b) EARTH SCIENCE TEACHING MATERIALS.—

18 (1) DEFINITIONS.—In this subsection:

19 (A) LOCAL EDUCATIONAL AGENCY.—The
20 term “local educational agency” has the mean-
21 ing given that term in section 14101 of the Ele-
22 mentary and Secondary Education Act of 1965
23 (20 U.S.C. 8801).

24 (B) SCHOOL.—The term “school” means a
25 nonprofit institutional day or residential school

1 that provides education for any of the grades
2 kindergarten through grade 12.

3 (2) TEACHING MATERIALS.—In a manner con-
4 sistent with the requirement under section
5 5(b)(4)(B) of the Earthquake Hazards Reduction
6 Act of 1977 (42 U.S.C. 7704(b)(4)(B)) and subject
7 to a merit based competitive process, the Director of
8 the National Science Foundation may use funds
9 made available to the Director under section 12(c)
10 of such Act (42 U.S.C. 7706(c)) to develop, and
11 make available to schools and local educational agen-
12 cies for use by schools, at a minimal cost, earth
13 science teaching materials that are designed to meet
14 the needs of elementary and secondary school teach-
15 ers and students.

16 (c) IMPROVED SEISMIC HAZARD ASSESSMENT.—

17 (1) IN GENERAL.—As soon as practicable after
18 the date of enactment of this Act, the Director shall
19 conduct a project to improve the seismic hazard as-
20 sessment of the seismic zone in East Tennessee that
21 is described in paragraph (2).

22 (2) EAST TENNESSEE SEISMIC ZONE.—The
23 seismic zone described in this paragraph is the seis-
24 mic zone located in East Tennessee, that underlies
25 the Oak Ridge National Laboratory in Oak Ridge,

1 Tennessee and the Watts Bar nuclear plant that is
2 operated by the Tennessee Valley Authority.

3 (3) REPORTS.—

4 (A) IN GENERAL.—Not later than 1 year
5 after the date of enactment of this Act, and an-
6 nually during the period of the assessment, the
7 Director shall prepare, and submit to Congress
8 a report on the findings of the assessment.

9 (B) FINAL REPORT.—Not later than 60
10 days after the date of termination of the assess-
11 ment conducted under this subsection, the Di-
12 rector shall prepare and submit to Congress a
13 report concerning the findings of the assess-
14 ment.

15 (4) AUTHORIZATION OF APPROPRIATIONS.—In
16 addition to the amounts made available to the Direc-
17 tor under section 12(b) of the Earthquake Hazards
18 Reduction Act of 1977 (42 U.S.C. 7706(b)), there
19 are authorized to be appropriated to the Department
20 of the Interior, to be used by the Director to carry
21 out this section—

22 (A) \$700,000 for fiscal year 1998; and

23 (B) \$1,000,000 for fiscal year 1999.

○