

Public Law 95-124  
95th Congress

An Act

Oct. 7, 1977

[S. 126]

Earthquake  
Hazards  
Reduction Act of  
1977.  
42 USC 7701  
note.  
42 USC 7701.

To reduce the hazards of earthquakes, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE.**

That this Act may be cited as the "Earthquake Hazards Reduction Act of 1977".

**SEC. 2. FINDINGS.**

The Congress finds and declares the following:

(1) All 50 States are vulnerable to the hazards of earthquakes, and at least 39 of them are subject to major or moderate seismic risk, including Alaska, California, Hawaii, Illinois, Massachusetts, Missouri, Montana, Nevada, New Jersey, New York, South Carolina, Utah, and Washington. A large portion of the population of the United States lives in areas vulnerable to earthquake hazards.

(2) Earthquakes have caused, and can cause in the future, enormous loss of life, injury, destruction of property, and economic and social disruption. With respect to future earthquakes, such loss, destruction, and disruption can be substantially reduced through the development and implementation of earthquake hazards reduction measures, including (A) improved design and construction methods and practices, (B) land-use controls and redevelopment, (C) prediction techniques and early-warning systems, (D) coordinated emergency preparedness plans, and (E) public education and involvement programs.

(3) An expertly staffed and adequately financed earthquake hazards reduction program, based on Federal, State, local, and private research, planning, decisionmaking, and contributions would reduce the risk of such loss, destruction, and disruption in seismic areas by an amount far greater than the cost of such program.

(4) A well-funded seismological research program in earthquake prediction could provide data adequate for the design, of an operational system that could predict accurately the time, place, magnitude, and physical effects of earthquakes in selected areas of the United States.

(5) An operational earthquake prediction system can produce significant social, economic, legal, and political consequences.

(6) There is a scientific basis for hypothesizing that major earthquakes may be moderated, in at least some seismic areas, by application of the findings of earthquake control and seismological research.

(7) The implementation of earthquake hazards reduction measures would, as an added benefit, also reduce the risk of loss, destruction, and disruption from other natural hazards and man-made hazards, including hurricanes, tornadoes, accidents, explosions, landslides, building and structural cave-ins, and fires.

(8) Reduction of loss, destruction, and disruption from earthquakes will depend on the actions of individuals, and organiza-

tions in the private sector and governmental units at Federal, State, and local levels. The current capability to transfer knowledge and information to these sectors is insufficient. Improved mechanisms are needed to translate existing information and research findings into reasonable and usable specifications, criteria, and practices so that individuals, organizations, and governmental units may make informed decisions and take appropriate actions.

(9) Severe earthquakes are a worldwide problem. Since damaging earthquakes occur infrequently in any one nation, international cooperation is desirable for mutual learning from limited experiences.

(10) An effective Federal program in earthquake hazards reduction will require input from and review by persons outside the Federal Government expert in the sciences of earthquake hazards reduction and in the practical application of earthquake hazards reduction measures.

### SEC. 3. PURPOSE.

42 USC 7702.

It is the purpose of the Congress in this Act to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program.

### SEC. 4. DEFINITIONS.

42 USC 7703.

As used in this Act, unless the context otherwise requires:

(1) The term "includes" and variants thereof should be read as if the phrase "but is not limited to" were also set forth.

(2) The term "program" means the earthquake hazards reduction program established under section 5.

(3) The term "seismic" and variants thereof mean having to do with, or caused by earthquakes.

(4) The term "State" means each of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Mariana Islands, and any other territory or possession of the United States.

(5) The term "United States" means, when used in a geographical sense, all of the States as defined in section 4(4).

### SEC. 5. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

42 USC 7704.

(a) **ESTABLISHMENT.**—The President shall establish and maintain, in accordance with the provisions and policy of this Act, a coordinated earthquake hazards reduction program, which shall—

(1) be designed and administered to achieve the objectives set forth in subsection (c);

(2) involve, where appropriate, each of the agencies listed in subsection (d); and

(3) include each of the elements described in subsection (e), the implementation plan described in subsection (f), and the assistance to the States specified in subsection (g).

(b) **DUTIES.**—The President shall—

(1) within 30 days after the date of enactment of this Act, designate the Federal department, agency, or entity responsible for the development of the implementation plan described in subsection (f);

(2) within 210 days after such date of enactment, submit to the appropriate authorizing committees of the Congress the implementation plan described in subsection (f); and

Plan, submittal to congressional committees.

(3) by rule, within 300 days after such date of enactment—

(A) designate the Federal department, agency, or interagency group which shall have primary responsibility for the development and implementation of the earthquake hazards reduction program;

(B) assign and specify the role and responsibility of each appropriate Federal department, agency, and entity with respect to each object and element of the program;

(C) establish goals, priorities, and target dates for implementation of the program;

(D) provide a method for cooperation and coordination with, and assistance (to the extent of available resources) to, interested governmental entities in all States, particularly those containing areas of high or moderate seismic risk; and

(E) provide for qualified staffing for the program and its components.

(c) OBJECTIVES.—The objectives of the earthquake hazards reduction program shall include—

Earthquake  
resistant  
construction.

(1) the development of technologically and economically feasible design and construction methods and procedures to make new and existing structures, in areas of seismic risk, earthquake resistant, giving priority to the development of such methods and procedures for nuclear power generating plants, dams, hospitals, schools, public utilities, public safety structures, high occupancy buildings, and other structures which are especially needed in time of disaster;

Earthquake  
prediction.

(2) the implementation in all areas of high or moderate seismic risk, of a system (including personnel, technology, and procedures) for predicting damaging earthquakes and for identifying, evaluating, and accurately characterizing seismic hazards;

Model codes.

(3) the development, publication, and promotion, in conjunction with State and local officials and professional organizations, of model codes and other means to coordinate information about seismic risk with land-use policy decisions and building activity;

Earthquake-  
related issues,  
understanding.

(4) the development, in areas of seismic risk, of improved understanding of, and capability with respect to, earthquake-related issues, including methods of controlling the risks from earthquakes, planning to prevent such risks, disseminating warnings of earthquakes, organizing emergency services, and planning for reconstruction and redevelopment after an earthquake;

(5) the education of the public, including State and local officials, as to earthquake phenomena, the identification of locations and structures which are especially susceptible to earthquake damage, ways to reduce the adverse consequences of an earthquake, and related matters;

Research.

(6) the development of research on—

(A) ways to increase the use of existing scientific and engineering knowledge to mitigate earthquake hazards;

(B) the social, economic, legal, and political consequences of earthquake prediction; and

(C) ways to assure the availability of earthquake insurance or some functional substitute; and

(7) the development of basic and applied research leading to a better understanding of the control or alteration of seismic phenomena.

(d) **PARTICIPATION.**—In assigning the role and responsibility of Federal departments, agencies, and entities under subsection (b) (3) (B), the President shall, where appropriate, include the United States Geological Survey, the National Science Foundation, the Department of Defense, the Department of Housing and Urban Development, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Bureau of Standards, the Energy Research and Development Administration, the Nuclear Regulatory Commission, and the National Fire Prevention and Control Administration.

(e) **RESEARCH ELEMENTS.**—The research elements of the program shall include—

(1) research into the basic causes and mechanisms of earthquakes;

(2) development of methods to predict the time, place, and magnitude of future earthquakes;

(3) development of an understanding of the circumstances in which earthquakes might be artificially induced by the injection of fluids in deep wells, by the impoundment of reservoirs, or by other means;

(4) evaluation of methods that may lead to the development of a capability to modify or control earthquakes in certain regions;

(5) development of information and guidelines for zoning land in light of seismic risk in all parts of the United States and preparation of seismic risk analyses useful for emergency planning and community preparedness;

(6) development of techniques for the delineation and evaluation of the political effects of earthquakes, and their application on a regional basis;

(7) development of methods for planning, design, construction, rehabilitation, and utilization of manmade works so as to effectively resist the hazards imposed by earthquakes;

(8) exploration of possible social and economic adjustments that could be made to reduce earthquake vulnerability and to exploit effectively existing and developing earthquake mitigation techniques; and

(9) studies of foreign experience with all aspects of earthquakes.

(f) **IMPLEMENTATION PLAN.**—The President shall develop, through the Federal agency, department, or entity designated under subsection (b) (1), an implementation plan which shall set year-by-year targets through at least 1980, and shall specify the roles for Federal agencies, and recommended appropriate roles for State and local units of government, individuals, and private organizations, in carrying out the implementation plan. The plan shall provide for—

(1) the development of measures to be taken with respect to preparing for earthquakes, evaluation of prediction techniques and actual predictions of earthquakes, warning the residents of an area that an earthquake may occur, and ensuring that a comprehensive response is made to the occurrence of an earthquake;

(2) the development of ways for State, county, local, and regional governmental units to use existing and developing knowledge about the regional and local variations of seismic risk in making their land use decisions;

(3) the development and promulgation of specifications, building standards, design criteria, and construction practices to achieve appropriate earthquake resistance for new and existing structures;

(4) an examination of alternative provisions and requirements for reducing earthquake hazards through Federal and federally financed construction, loans, loan guarantees, and licenses;

(5) the determination of the appropriate role for insurance, loan programs, and public and private relief efforts in moderating the impact of earthquakes; and

(6) dissemination, on a timely basis, of—

(A) instrument-derived data of interest to other researchers;

(B) design and analysis data and procedures of interest to the design professions and to the construction industry; and

(C) other information and knowledge of interest to the public to reduce vulnerability to earthquake hazards.

Report, filing with congressional committees.

When the implementation plan developed by the President under this section contemplates or proposes specific action to be taken by any Federal agency, department, or entity, and, at the end of the 30-day period beginning on the date the President submits such plan to the appropriate authorizing committees of the Congress any such action has not been initiated, the President shall file with such committees a report explaining, in detail, the reasons why such action has not been initiated.

(g) STATE ASSISTANCE.—In making assistance available to the States under the Disaster Relief Act of 1974 (42 U.S.C. 5121 et seq.), the President may make such assistance available to further the purposes of this Act, including making available to the States the results of research and other activities conducted under this Act.

(h) PARTICIPATION.—In carrying out the provisions of this section, the President shall provide an opportunity for participation by the appropriate representatives of State and local governments, and by the public, including representatives of business and industry, the design professions, and the research community, in the formulation and implementation of the program.

Program plan review.  
Report to Congress.

Such non-Federal participation shall include periodic review of the program plan, considered in its entirety, by an assembled and adequately staffed group of such representatives. Any comments on the program upon which such group agrees shall be reported to the Congress.

Measures developed pursuant to paragraph 5(f) (1) for the evaluation of prediction techniques and actual predictions of earthquakes shall provide for adequate non-Federal participation. To the extent that such measures include evaluation by Federal employees of non-Federal prediction activities, such measures shall also include evaluation by persons not in full-time Federal employment of Federal prediction activities.

42 USC 7705.  
Submittal to congressional committees.

**SEC. 6. ANNUAL REPORT.**

The President shall, within ninety days after the end of each fiscal year, submit an annual report to the appropriate authorizing committees in the Congress describing the status of the program, and describing and evaluating progress achieved during the preceding fiscal year in reducing the risks of earthquake hazards. Each such report shall include any recommendations for legislative and other action the President deems necessary and appropriate.

42 USC 7706.

**SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

(a) GENERAL.—There are authorized to be appropriated to the President to carry out the provisions of sections 5 and 6 of this Act (in addition to any authorizations for similar purposes included in

other Acts and the authorizations set forth in subsections (b) and (c) of this section), not to exceed \$1,000,000 for the fiscal year ending September 30, 1978, not to exceed \$2,000,000 for the fiscal year ending September 30, 1979, and not to exceed \$2,000,000 for the fiscal year ending September 30, 1980.

(b) **GEOLOGICAL SURVEY.**—There are authorized to be appropriated to the Secretary of the Interior for purposes for carrying out, through the Director of the United States Geological Survey, the responsibilities that may be assigned to the Director under this Act not to exceed \$27,500,000 for the fiscal year ending September 30, 1978; not to exceed \$35,000,000 for the fiscal year ending September 30, 1979; and not to exceed \$40,000,000 for the fiscal year ending September 30, 1980.

(c) **NATIONAL SCIENCE FOUNDATION.**—To enable the Foundation to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated to the Foundation not to exceed \$27,500,000 for the fiscal year ending September 30, 1978; not to exceed \$35,000,000 for the fiscal year ending September 30, 1979; and not to exceed \$40,000,000 for the fiscal year ending September 30, 1980.

Approved October 7, 1977.

#### LEGISLATIVE HISTORY:

**HOUSE REPORTS:** No. 95-286, Pt. I accompanying H.R. 6683 (Comm. on Science and Technology) and No. 95-286, Pt. II accompanying H.R. 6683 (Comm. on Interior and Insular Affairs).

**SENATE REPORT** No. 95-130 (Comm. on Commerce, Science, and Transportation).  
**CONGRESSIONAL RECORD**, Vol. 123 (1977):

May 12, considered and passed Senate.

Sept. 9, considered and passed House, amended, in lieu of H.R. 6683.

Sept. 23, Senate concurred in House amendment.