

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977
REAUTHORIZATION

AUGUST 1, 1997.—Committed to the Committee of the Whole House on the State
of the Union and ordered to be printed

Mr. SENSENBRENNER, from the Committee on Science,
submitted the following

R E P O R T

[To accompany H.R. 2249]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 2249) to authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1998 and 1999, and for other purposes, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

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I. PURPOSE OF THE BILL

The purpose of the bill is to authorize appropriations under the National Earthquake Hazards Reduction Act of 1977. The bill authorizes appropriations by agency, including: \$20,900,000 for fiscal year 1998 and \$21,500,000 for fiscal year 1999 to the Federal Emergency Management Agency (FEMA); \$52,565,660 for fiscal year 1998 and \$54,052,630 for fiscal year 1999 to the United States Geological Survey (USGS); \$30,300,000 for fiscal year 1998 and \$31,280,000 for fiscal year 1999 to the National Science Foundation (NSF); and \$2,000,000 for fiscal year 1998 and \$2,060,000 for fiscal year 1999 to the National Institute of Standards and Technology (NIST).

II. BACKGROUND AND NEED FOR THE LEGISLATION

Congress created the National Earthquake Hazards and Reduction Program (NEHRP) in P.L. 95-124, the Earthquake Hazards Reduction Act of 1977, in response to a recognized national threat posed by earthquakes and in an effort to reduce death and property loss from this natural disaster. Since its inception, NEHRP has focused on earthquake research (physical, seismic, structural, and social) as well as earthquake hazards mitigation. NEHRP activities in research and mitigation are executed by four separate federal agencies: The National Science Foundation (NSF); the National Institute of Standards and Technology (NIST); the United States Geological Survey (USGS); and the Federal Emergency Management Agency (FEMA).

As the designated lead agency for NEHRP, FEMA is charged with the responsibility of coordinating the activities of the other principal agencies, conducting planning for and managing of federal responses to earthquakes, and funding state and local preparedness activities.

The USGS conducts and supports earth science investigations to understand the origins of earthquakes, characterize earthquake hazards, and predict the geologic effects of earthquakes. This agency also disseminates earth science information.

The NSF funds earthquake engineering research, basic earth sciences research, and earthquake-related social sciences research. Earthquake engineering research includes assessing the impact of earthquakes on buildings and lifelines.

NIST conducts and supports engineering studies to improve seismic provisions of standards, codes, and practices for buildings and lifelines.

Additional federal agencies contribute to the NEHRP through research activities consistent with their primary missions. For example, the Department of Energy has studied the seismic safety of nuclear reactor designs as part of their nuclear energy research program.

Over the years, NEHRP has provided insightful research and useful information for earthquake hazards mitigation. The program has led to significant advances in knowledge of earth science and engineering aspects of earthquake risk reduction.

NEHRP was last authorized by P.L. 103-374. This Act authorized NEHRP at \$103 million for fiscal year 1995 and \$106 million

for fiscal year 1996. In addition, this Act directed the President to conduct an assessment of earthquake engineering research and testing facilities in the United States. The Administration, through NSF and NIST, commissioned the Earthquake Engineering Research Institute (EERI) to conduct the assessment. In a subsequent report released, EERI made a number of recommendations regarding the state of the nation's earthquake engineering testing facilities. The primary recommendation among these, was a specific recommendation that a comprehensive plan for upgrading existing earthquake engineering research and testing facilities be developed and implemented.

III. SUMMARY OF HEARING

On April 24, 1997, the Subcommittee on Basic Research held a hearing to receive testimony on the National Earthquake Hazards and Reduction Program (NEHRP). The hearing examined the Administration's FY98 budget request for NEHRP as well as issues related to a multi-year reauthorization of the program.

Witnesses testifying before the Committee included: Mr. Richard W. Krimm, Executive Associate Director and Mitigation Directorate, FEMA; Dr. P. Patrick Leahy, Chief Geologist, USGS; Dr. Elbert L. Marsh, Acting Assistant Director of Engineering, NSF; Dr. Robert Hebner, Acting Director, NIST; Dr. David Simpson, President, the IRIS Corporation; Dr. Kerry Sieh, Professor of Geology, Seismological Laboratory, California Institute of Technology; Dr. Joanne Nigg, President, Earthquake Engineering Research Institute (EERI); Dr. Daniel P. Abrams, the NEHRP Coalition; and Dr. George Lee, Director, National Center for Earthquake Engineering Research (NCEER), SUNY Buffalo.

Dr. Leahy expressed frustration with the \$2 million decrease in the External Grants Program from FY 95 to FY 97 (\$8 million to \$6 million). Leahy noted that external grants are central to the USGS's mission and that more work could be conducted with the external community.

Dr. Marsh testified that NSF remains the most important source of government funding for fundamental research in earthquake.

Dr. Simpson praised NEHRP for its success which has impacted the course of research in seismology, engineering, and disaster planning but stated that within the current funding levels of NEHRP, they cannot accomplish the work that needs to be done to reach the significant and attainable goals of the program. Dr. Simpson testified that a major upgrade is required of U.S. facilities for earthquake monitoring and the analysis, distribution and archiving of data. He stated that such an upgrade should emphasize the collection of broadband and strong motion seismic data and geodetic data within a coordinated, standardized system for data collection, analysis and distribution.

Dr. Sieh testified that the results of scientific research from the NEHRP program have had tremendous downstream consequences in terms of mitigation expenditures before an earthquake occurs. These activities show that the leveraging of research results is enormous, and that it is important to maintain strong federal support of scientific studies of earthquake probabilities, causes and effects.

Dr. Abrams stated that continuing improvements in our earthquake methods will result in significantly increased earthquake safety as new and replacement structures and infrastructure systems are built. He said achieving the national goals of reducing earthquake risk to an acceptable level, and creating a built-environment that is safe when subjected to earthquakes, requires a continuing long-term commitment of resources which is particularly important in terms of upgrading existing test facilities because of the capital investments required.

Dr. Lee said that while we continue to work towards reliable mitigation solutions for the future, it is important to critically examine the practices of the past. Such an effort, says Dr. Lee, will inevitably require state-of-the-art research and state-of-the-art facilities. In this regard, Dr. Lee encourages the continued support and the improvement of the Nation's experimental research program and laboratory facilities. He stated that NSF has recognized this need and undertaken a major effort to develop an action plan to upgrade and modernize a network of national earthquake engineering experimental facilities.

IV. COMMITTEE ACTIONS

On July 29, 1997, the Committee convened to mark up H.R. 2249. A quorum being present, the bill was passed and ordered reported by the Committee by voice vote.

V. SUMMARY OF MAJOR PROVISIONS OF THE BILL

The bill authorizes appropriations to FEMA, USGS, NSF, and NIST for fiscal years 1998 and 1999 for carrying out activities under the National Earthquake Hazards Reduction Act of 1977. The bill also authorizes appropriations for operation of the Global Seismic Network (GSN). In addition, H.R. 2249 authorizes and provides funds for the development by USGS of a new prototype real time seismic hazards warning system. This system is to be a network of seismic sensors connected to receivers located at sites such as electric utilities and gas lines. The system would provide for timely warning to the facilities in the event of a seismic event. Finally, the bill requires the NSF, in conjunction with the three other NEHRP agencies, to develop a plan to effectively use earthquake engineering testing facilities, upgrade facilities and equipment, and integrate new, innovative testing approaches to earthquake engineering research in a systematic manner.

VI. SECTION-BY-SECTION ANALYSIS (BY TITLE AND SECTION)

Section 1. Authorization of appropriations

This section authorizes a total of \$101.9 million in fiscal year 1998 and \$104.9 million in fiscal year 1999 to the four NEHRP agencies to carry out activities under the Act, including an earmark of \$8 million and \$8.25 million, respectively, in each of fiscal years 1998 and 1999 for the USGS's external grants program.

In addition, Section 1 of H.R. 2249 authorizes \$3.8 million in each of fiscal years 1998 and 1999 for the Global Seismic Network (GSN). \$3 million of this program, which is within the jurisdiction

of the House Resources and National Security Committees, was funded by the Department of Defense through FY 1997. The Administration proposed transferring the total funding of GSN to USGS in its FY 1998 budget request.

Section 2. Authorization of real time seismic hazard warning system, and other activities

Subsection (a). Authorizes the Director of the USGS to develop a prototype real time seismic warning system. The system is a network of seismic sensors connected to receivers located at sites such as electric utilities, gas lines, rail lines, etc., that would provide for timely warning signals in a seismic event enabling the shut down of facilities.

This subsection provides for carrying out the program to develop a prototype real-time seismic warning system through upgrading of existing seismic sensors, developing a communications and computation infrastructure, and procuring computer hardware and software.

Authorizes a total of \$6 million, \$3 million in FY 1998 and \$3 million in FY 1999, to USGS for carrying out the program. This money is in addition to the funds authorized in Section 1.

Subsection (b). Requires the Director of USGS to assess regional monitoring networks in the United States for the need to update and expand equipment used for data gathering.

Subsection (c). Authorizes the Director of the National Science Foundation to use funds to develop earth science teaching materials for dissemination to local educational agencies.

Subsection (d). Requires the Director of USGS to conduct a project to improve seismic hazards assessments of seismic zones.

Subsection (e). Requires the Director of FEMA to assess the need for additional training capabilities/programs offered by the agency, and to submit a report to Congress.

Section 3. Comprehensive engineering research plan

Requires the NSF, in conjunction with the three other NEHRP agencies, to develop a plan to effectively use earthquake engineering testing facilities, upgrade facilities and equipment, and integrate new, innovating testing approaches to earthquake engineering research in a systematic manner.

Section 4. Repeals

This section amends the organic act by repealing sections which are obsolete.

VII. COMMITTEE VIEWS

INCREASE IN AUTHORIZATION LEVEL

NEHRP has received level or declining funding over the past decade. The Committee is concerned that this trend will not ensure a robust science and engineering infrastructure necessary to continue to increase what we know and can do about earthquake hazards. It is the Committee's hope that H.R. 2249 will help reverse this trend by providing inflationary adjustments over FY 1997 funding levels to NIST, USGS, and FEMA for their activities under the pro-

gram. To the NSF, the bill authorizes 5.7% over FY 1997. This is consistent with the NSF authorization bill reported by this Committee and passed by the House earlier this year (H.R. 1273).

EXTERNAL GRANTS

The Committee is concerned about an effort in 1996 to eliminate funding for earthquake research grants to universities, the USGS external grants program. Most of the funding for this program was restored by FY 1997; however, the Committee places a high priority on external research programs, including the USGS's external grants program and thus feels that it is necessary to both establish this program in statute and restore funding to the pre-1996 level. While we did not offer a corresponding increase in USGS's overall NERHP budget, H.R. 2249 does provide a 3% increase over both the FY 1997 appropriated level and the President's request for FY 1998 which should allay concerns that the bill's earmark for external grants will affect other programs at USGS or staffing levels.

GLOBAL SEISMIC NETWORK (GSN)

As requested by the Administration, H.R. 2249 includes \$3.8 million in each of fiscal years 1998 and 1999 for the Global Seismic Network.

REAL TIME SEISMIC HAZARDS WARNING SYSTEM

The Committee recommends spending \$3 million in each of fiscal years 1998 and 1999 on developing a prototype seismic hazards warning network. The prototype will connect the network of seismic sensors with receivers located at major lifelines such as electric utilities and gas lines. In a seismic event, the sensors would signal the receivers to shut down the facilities. If gaslines and other lifelines could be shut down before an earthquake, lives and property might be spared from the inevitable resulting fires and other residual hazards.

ASSESSMENT OF REGIONAL MONITORING NETWORKS

The seismological community relies heavily on the U.S. infrastructure for earthquake monitoring and analysis for ground motion data used to monitor earthquakes. Technological advances in electronics, computers, and seismic sensors can improve and expedite the collection and processing of data. The Committee believes that the existing U.S. facilities should be examined to determine the status of equipment and the need for upgrades.

EARTH SCIENCE TEACHING MATERIALS

Education is perhaps the most crucial element of both continued economic growth and support for a viable scientific and research enterprise. In keeping with the Committee's interest in the widest possible dissemination of science information and support for science and math education, we believe that the NSF which also has a separate education mission, should use resources to benefit education. The Committee intends that these activities be carried out in a manner that conforms to the statutory authorities of the other NEHRP agencies.

IMPROVED SEISMIC HAZARD ASSESSMENT

One of the USGS's primary responsibilities under NEHRP is seismic hazards assessments. While we have made great strides in mapping and seismic assessments, we must be ever vigilant in improving our knowledge of the seismic risk in regions of the nation. A project undertaken by USGS to improve understanding of earthquake risk will significantly improve a region's ability to mitigate against said hazard.

STUDY OF NATIONAL EMERGENCY TRAINING CAPABILITIES

The Committee recognizes FEMA's outstanding achievements in hands-on emergency and preparedness training at the Emmitsburg, MD, FEMA training centers. Emergency response personnel across the country credit their experiences at FEMA with saving lives in disasters, including the recent bombing of the Murrah Federal Building in Oklahoma City. Moreover, they stress that the training they receive for one type of disaster, such as earthquakes, actually enables them to respond to a whole host of different disasters.

Given this tremendous track record, it is not surprising that emergency personnel from all over the United States would like access to this training, and still others would like the Emmitsburg centers to offer an expanded curricula especially in the area of anti-terrorist training. The Committee notes that more than twice the number of emergency personnel apply for such training than can be accommodated by FEMA.

The Committee wholeheartedly supports the provision of additional training opportunities, but is also mindful of the logistical and fiscal constraints under which FEMA and other emergency personnel entities operate. Thus, the Committee directs FEMA to evaluate whether additional training facilities are needed to meet the demands of emergency training for disasters, such as earthquakes. The Committee expects that the report on this study, due on February 15, 1998, will detail the type of needed facilities and will discuss other factors to be considered in the siting of such facilities. Furthermore, the Committee expects the report to present supporting documentation that includes a review of FEMA training opportunities and the numbers of emergency personnel desirous of such training.

COMPREHENSIVE ENGINEERING RESEARCH PLAN

The Committee is very supportive of NSF's current efforts to modernize earthquake engineering and testing facilities through the process by which it determines priorities for its Major Research Equipment (MRE) account. We believe that development of a comprehensive plan for upgrading equipment and facilities will complement this effort. The Committee encourages the NSF to expeditiously pursue both initiatives, keeping this Committee apprised in an appropriate manner.

VIII. COST ESTIMATE

Clause 7(a) of rule XIII of the Rules of the House of Representatives requires each committee report accompanying each bill or joint resolution of a public character to contain: (1) an estimate,

made by such committee, of the costs which would be incurred in carrying out such bill or joint resolution in the fiscal year in which it is reported, and in each of the five fiscal years following such fiscal year (or for the authorized duration of any program authorized by such bill or joint resolution, if less than five years); (2) a comparison of the estimate of costs described in subparagraph (1) of this paragraph made by such committee with an estimate of such costs made by any Government agency and submitted to such committee; and (3) when practicable, a comparison of the total estimated funding level for the relevant program (or programs) with the appropriate levels under current law. However, clause 7(d) of that Rule provides that this requirement does not apply when a cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 403 of the Congressional Budget Act of 1974 has been timely submitted prior to the filing of the report and included in the report pursuant to clause 2(1)(3)(C) of rule XI. A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 403 of the Congressional Budget Act of 1974 has been timely submitted prior to the filing of this report and included in Section X of this report pursuant to clause 2(1)(3)(C) of rule XI.

Clause 2(1)(3)(B) of rule XI of the Rules of the House of Representatives requires each committee report that accompanies a measure providing new budget authority (other than continuing appropriations), new spending authority, or new credit authority, or changes in revenues or tax expenditures to contain a cost estimate, as required by section 308(a)(1) of the Congressional Budget Act of 1974 and, when practicable with respect to estimates of new budget authority, a comparison of the total estimated funding level for the relevant program (or programs) to the appropriate levels under current law. H.R. 2249 does not contain any new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 2249 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

IX. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

The CBO estimate follows:



CONGRESSIONAL BUDGET OFFICE
U.S. CONGRESS
WASHINGTON, D.C. 20515

June E. O'Neill
Director

July 30, 1997

Honorable F. James Sensenbrenner, Jr.
Chairman
Committee on Science
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 2249, 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.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Gary Brown, Lisa Daley, Rachel Forward, and Kathy Gramp (for federal costs), all of whom can be reached at 226-2860, and Karen McVey (for the state and local impact), who can be reached at 225-3220.

Sincerely,

June E. O'Neill

Enclosure

cc: Honorable George E. Brown, Jr.
Ranking Democrat



CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE

July 30, 1997

H.R. 2249

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

As ordered reported by the House Committee on Science on July 29, 1997

SUMMARY

H.R. 2249 would authorize appropriations totaling \$106 million in 1998 and \$109 million in 1999 for the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), the National Science Foundation (NSF), and the National Institute of Science and Technology (NIST) to carry out the provisions of the Earthquake Hazards Reduction Act of 1977. The bill also would authorize USGS to develop and deploy a prototype of a real-time seismic warning system and would authorize additional appropriations of \$3 million in both 1998 and 1999 for that purpose.

Assuming appropriation of the authorized amounts, CBO estimates that enacting H.R. 2249 would result in additional discretionary spending of \$221 million over the 1998-2002 period. The legislation would not affect direct spending or receipts; therefore, pay-as-you-go procedures would not apply. The bill contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act of 1995 (UMRA), and would not impose any costs on state, local, or tribal governments.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

For the purposes of this estimate, CBO assumes that all amounts authorized in H.R. 2249 will be appropriated by the start of each fiscal year and that outlays will follow the historical spending patterns for these and similar programs. The funding levels included in the bill are meant to pay for both programs and associated administrative expenses. The estimated budgetary impact of H.R. 2249 is shown in the following table.

	By Fiscal Year, in Millions of Dollars					
	1997	1998	1999	2000	2001	2002
SPENDING SUBJECT TO APPROPRIATION						
Spending Under Current Law						
Budget Authority ^a	98	0	0	0	0	0
Estimated Outlays	90	27	8	3	1	0
Proposed Changes						
USGS: Authorization Level	0	56	57	0	0	0
Estimated Outlays	0	52	57	4	0	0
NSF: Authorization Level	0	30	31	0	0	0
Estimated Outlays	0	9	25	20	5	2
FEMA: Authorization Level	0	21	22	0	0	0
Estimated Outlays	0	13	19	8	3	0
NIST: Authorization Level	0	2	2	0	0	0
Estimated Outlays	0	2	2	0	0	0
Total: Authorization Level	0	109	112	0	0	0
Estimated Outlays	0	76	103	32	8	2
Spending Under H.R. 2249						
Authorization Level ^a	98	109	112	0	0	0
Estimated Outlays	90	103	111	35	9	2

a. The 1997 level is the amount appropriated for that year.

The costs of this legislation fall within budget functions 250 (general science, space, and technology), 300 (natural resources and environment), 370 (commerce and housing credit), and 450 (community and regional development).

PAY-AS-YOU-GO CONSIDERATIONS: None.

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

H.R. 2249 contains no intergovernmental mandates as defined in UMRA and would impose no costs on state, local, or tribal governments. The bill would allow the Director of NSF to use appropriated funds to develop and make available to schools and local educational agencies—at minimal cost—earth science teaching materials. It would also set aside approximately \$16 million of USGS funds over the next two fiscal years for grants to state and local governments, persons or entities from the academic community, and the private sector.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

This bill would impose no new private-sector mandates as defined in UMRA.

PREVIOUS CBO ESTIMATE

On July 16, 1997, CBO prepared an estimate for S. 910, a similar bill ordered reported by the Senate Committee on Commerce, Science, and Transportation on June 23, 1997. The estimated cost of H.R. 2249 is \$1 million greater in each of fiscal years 1998, 1999, and 2000 because it authorizes a higher level of spending for the USGS.

ESTIMATE PREPARED BY:

Federal Costs: Gary Brown, Lisa Daley, Rachel Forward, and Kathy Gramp (226-2860)
Impact on State, Local, and Tribal Governments: Karen L. McVey (225-3220)

ESTIMATE APPROVED BY:

Robert A. Sunshine
Deputy Assistant Director for Budget Analysis

X. COMPLIANCE WITH PUBLIC LAW 104-4

H.R. 2249 contains no unfunded mandates.

XI. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

Clause 2(1)(3)(A) of rule XI requires each committee report to contain oversight findings and recommendations required pursuant to clause 2(b)(1) of rule X. The Committee has no oversight findings.

XII. OVERSIGHT FINDINGS AND RECOMMENDATIONS BY THE
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

Clause 2(1)(3)(D) of rule XI of the Rules of the House of Representatives requires each committee report to contain a summary of the oversight findings and recommendations made by the House Government Reform and Oversight Committee pursuant to clause 4(c)(2) of rule X, whenever such findings and recommendations have been submitted to the Committee in a timely fashion. The Committee on Science has received no such findings or recommendations from the Committee on Government Reform and Oversight.

XIII. CONSTITUTIONAL AUTHORITY STATEMENT

Clause 2(1)(4) of rule XI of the Rules of the House of Representatives requires each report of a committee on a bill or joint resolution of a public character to include a statement citing the specific powers granted to the Congress in the Constitution to enact the law proposed by the bill or joint resolution. Article 1, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 1272.

XIV. FEDERAL ADVISORY COMMITTEE STATEMENT

H.R. 2249 neither establishes nor expands any federal advisory committee.

XV. CONGRESSIONAL ACCOUNTABILITY ACT

The Committee finds that H.R. 2249 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104-1).

XVI. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977

* * * * *

SEC. 5. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

(a) ESTABLISHMENT.—There is established a National Earthquake Hazards Reduction Program.

(b) RESPONSIBILITIES OF PROGRAM AGENCIES.—

(1) LEAD AGENCY.—The Federal Emergency Management Agency (hereafter in this Act referred to as the “Agency”) shall have the primary responsibility for planning and coordinating the Program. In carrying out this paragraph, the Director of the Agency shall—

(A) * * *

* * * * *

(D) prepare, in conjunction with the other Program agencies, a biennial report, to be submitted to the Congress within 90 days after the end of each even-numbered fiscal year, which shall describe the activities and achievements of the Program during the preceding two fiscal years; [and]

(E) request the assistance of Federal agencies other than the Program agencies, as necessary to assist in carrying out this Act[.]; and

(F) *work with the National Science Foundation, the National Institute of Standards and Technology, and the United States Geological Survey, to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (existing at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.*

The principal official carrying out the responsibilities described in this paragraph shall be at a level no lower than that of Associate Director.

* * * * *

(3) UNITED STATES GEOLOGICAL SURVEY.—The United States Geological Survey shall conduct research necessary to characterize and identify earthquake hazards, assess earthquake risks, monitor seismic activity, and improve earthquake predictions. In carrying out this paragraph, the Director of the United States Geological Survey shall—

(A) * * *

* * * * *

(E) establish, using existing facilities, a Center for the International Exchange of Earthquake Information which shall—

(i) promote the exchange of information on earthquake research and earthquake preparedness between the United States and other nations;

(ii) maintain a library containing selected reports, research papers, and data produced through the Program;

(iii) answer requests from other nations for information on United States earthquake research and earthquake preparedness programs; and

(iv) direct foreign requests to the agency involved in the Program which is best able to respond to the request; **[and]**

(F) operate a National Seismic Network;

(G) support regional seismic networks, which shall complement the National Seismic Network**[.]**; *and*

(H) work with the National Science Foundation, the Federal Emergency Management Agency, and the National Institute of Standards and Technology to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(4) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding research on earth sciences to improve the understanding of the causes and behavior of earthquakes, on earthquake engineering, and on human response to earthquakes. In carrying out this paragraph, the Director of the National Science Foundation shall—

(A) * * *

* * * * *

(D) emphasize, in earthquake engineering research, development of economically feasible methods to retrofit existing buildings and to protect lifelines to mitigate earthquake damage; **[and]**

(E) support research that studies the political, economic, and social factors that influence the implementation of hazard reduction measures**[.]**; *and*

(F) develop, in conjunction with the Federal Emergency Management Agency, the National Institute of Standards and Technology, and the United States Geological Survey, a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(5) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—The National Institute of Standards and Technology shall be responsible for carrying out research and development to improve building codes and standards and practices for structures and lifelines. In carrying out this paragraph, the Director of the National Institute of Standards and Technology shall—

(A) work closely with national standards and model building code organizations, in conjunction with the Agency, to promote the implementation of research results;

(B) promote better building practices among architects and engineers; **[and]**

(C) work closely with national standards organizations to develop seismic safety standards and practices for new and existing lifelines**[.]**; *and*

(D) work with the National Science Foundation, the Federal Emergency Management Agency, and the United States Geological Survey to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

[SEC. 6. OFFICE OF SCIENCE AND TECHNOLOGY POLICY REPORT.

【The Director of the Office of Science and Technology Policy shall, within 3 months after the date of the enactment of the National Earthquake Hazards Reduction Program Reauthorization Act, report to the Committee on Commerce, Science, and Transportation of the Senate and to the Committee on Science, Space, and Technology and the Committee on Interior and Insular Affairs of the House of Representatives with respect to how the Office of Science and Technology Policy can play a role in interagency coordination, planning, and operation of the Program.

[SEC. 7. ADVISORY COMMITTEE.

【There is established a National Earthquake Hazards Reduction Program Advisory Committee (hereafter in this Act referred to as the “Advisory Committee”), which shall advise the Program agencies on planning and implementing the Program. The Director of the Agency shall, in consultation with the directors of the Program agencies, determine the number of members on the Advisory Committee and the duration of their terms, and appoint the Chairman and Members of the Advisory Committee. The Advisory Committee shall have balanced representation of State and local governments, the design professions, the research community, business and industry, and the general public. The Advisory Committee shall meet at the call of the Chairman, but in no event less often than every 6 months. The Advisory Committee shall submit a written report directly to the Congress, without review by the Office of Management and Budget or any other agency, by January 31 of each calendar year beginning after the date of enactment of the National Earthquake Hazards Reduction Program Reauthorization Act, which shall describe any recommendations the Advisory Committee has made to the Program agencies during the preceding year. Members of the Advisory Committee shall serve without compensation but may receive reimbursement for expenses. All expenses of the Advisory Committee shall be borne by the Agency. The Advisory Committee shall expire September 30, 1993.】

* * * * *

SEC. 12. AUTHORIZATION OF APPROPRIATIONS.

(a)(1) * * *

* * * * *

(7) There are authorized to be appropriated to the Director of the Agency, to carry out this Act, \$5,778,000 for the fiscal year ending September 30, 1988, \$5,788,000 for the fiscal year ending September 30, 1989, \$8,798,000 for the fiscal year ending September 30, 1990, \$14,750,000 for the fiscal year ending September 30, 1991,

\$19,000,000 for the fiscal year ending September 30, 1992, \$22,000,000 for the fiscal year ending September 30, 1993, \$25,000,000 for the fiscal year ending September 30, 1995, **[and]** \$25,750,000 for the fiscal year ending September 30, 1996, \$20,900,000 for the fiscal year ending September 30, 1998, and \$21,500,000 for the fiscal year ending September 30, 1999.

(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; not to exceed \$40,000,000 for the fiscal year ending September 30, 1980; \$32,484,000 for the fiscal year ending September 30, 1981; \$34,425,000 for the fiscal year ending September 30, 1982; \$31,843,000 for the fiscal year ending September 30, 1983; \$35,524,000 for the fiscal year ending September 30, 1984; \$37,300,200 for the fiscal year ending September 30, 1985; \$35,578,000 for the fiscal year ending September 30, 1986; \$37,179,000 for the fiscal year ending September 30, 1987; \$38,540,000 for the fiscal year ending September 30, 1988; \$41,819,000 for the fiscal year ending September 30, 1989; \$55,283,000 for the fiscal year ending September 30, 1990, of which \$8,000,000 shall be for earthquake investigations under section 11; \$50,000,000 for the fiscal year ending September 30, 1991; \$54,500,000 for the fiscal year ending September 30, 1992; \$62,500,000 for the fiscal year ending September 30, 1993; \$49,200,000 for the fiscal year ending September 30, 1995; **[and]** \$50,676,000 for the fiscal year ending September 30, 1996; \$52,565,660 for the fiscal year ending September 30, 1998, of which \$3,800,000 shall be used for the Global Seismic Network operated by the Agency; and \$54,052,630 for the fiscal year ending September 30, 1999, of which \$3,800,000 shall be used for the Global Seismic Network operated by the Agency. Of the amounts authorized to be appropriated under this subsection, at least—

(1) \$8,000,000 of the amount authorized to be appropriated for the fiscal year ending September 30, 1998; and

(2) \$8,250,000 of the amount authorized for the fiscal year ending September 30, 1999,

shall be used for carrying out a competitive, peer-reviewed program under which the Director, in close coordination with and as a complement to related activities of the United States Geological Survey, awards grants to, or enters into cooperative agreements with, State and local governments and persons or entities from the academic community and the private sector.

(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; not to exceed \$40,000,000 for the first year ending September 30, 1980; \$26,600,000 for the fiscal year ending September 30, 1981; \$27,150,000 for the fiscal year ending September 30, 1982; \$25,000,000 for the fiscal year ending September 30, 1983;

\$25,800,000 for the fiscal year ending September 30, 1984; \$28,665,000 for the fiscal year ending September 30, 1985; \$27,760,000 for the fiscal year ending September 30, 1986; \$29,009,000 for the fiscal year ending September 30, 1987; \$28,235,000 for the fiscal year ending September 30, 1988; \$31,634,000 for the fiscal year ending September 30, 1989; \$38,454,000 for the fiscal year ending September 30, 1990. Of the amounts authorized for Engineering under section 101(d)(1)(B) of the National Science Foundation Authorization Act of 1988, \$24,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991, and of the amounts authorized for Geosciences under section 101(d)(1)(D) of the National Science Foundation Authorization Act of 1988, \$13,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991. Of the amounts authorized for Research and Related Activities under section 101(e)(1) of the National Science Foundation Authorization Act of 1988, \$29,000,000 is authorized for engineering research under this Act, and \$14,750,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1992. Of the amounts authorized for Research and Related Activities under section 101(f)(1) of the National Science Foundation Authorization Act of 1988, \$34,500,000 is authorized for engineering research under this Act, and \$17,500,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Science Foundation: (1) \$16,200,000 for engineering research and \$10,900,000 for geosciences research for the fiscal year ending September 30, 1995, [and] (2) \$16,686,000 for engineering research and \$11,227,000 for geosciences research for the fiscal year ending September 30, 1996, (3) \$18,450,000 for engineering research and \$11,920,000 for geosciences research for the fiscal year ending September 30, 1998, and (4) \$19,000,000 for engineering research and \$12,280,000 for geosciences research for the fiscal year ending September 30, 1999.

(d) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—To enable the National Institute of Standards and Technology to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated \$425,000 for the fiscal year ending September 30, 1981; \$425,000 for the fiscal year ending September 30, 1982; \$475,000 for the fiscal year ending September 30, 1983; \$475,000 for the fiscal year ending September 30, 1984; \$498,750 for the fiscal year ending September 30, 1985; \$499,000 for the fiscal year ending September 30, 1986; \$521,000 for the fiscal year ending September 30, 1987; \$525,000 for the fiscal year ending September 30, 1988; \$525,000 for the fiscal year ending September 30, 1989; \$2,525,000 for the fiscal year ending September 30, 1990; \$1,000,000 for the fiscal year ending September 30, 1991; \$3,000,000 for the fiscal year ending September 30, 1992; and \$4,750,000 for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Institute of Standards and Technology, \$1,900,000 for the fiscal year ending September 30, 1995, [and] \$1,957,000 for the fiscal year ending September 30,

*1996, \$2,000,000 for the fiscal year ending September 30, 1998, and
\$2,060,000 for the fiscal year ending September 30, 1999.*

* * * * *

XVII. COMMITTEE RECOMMENDATIONS

On July 29, 1997, a quorum being present, the Committee favorably reported H.R. 2249 by a voice vote and recommends its enactment.

XVIII. PROCEEDINGS OF THE FULL COMMITTEE MARKUP

**FULL COMMITTEE MARKUP ON H.R. 2249—TO
AUTHORIZE APPROPRIATIONS FOR CARRY-
ING OUT THE EARTHQUAKE HAZARDS RE-
DUCTION ACT OF 1977 FOR FISCAL YEARS
1998 AND 1999, AND FOR OTHER PURPOSES**

TUESDAY, JULY 29, 1997

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
Washington, DC.

The Committee met at 1:18 p.m., in room 2318 of the Rayburn House Office Building, Hon. F. James Sensenbrenner, Jr., Chairman of the Committee, presiding.

Chairman SENSENBRENNER. The next bill up is H.R. 2249, To Authorize Appropriations For The Carrying Out The Earthquake Hazards Reduction Act of 1977 For Fiscal Years 1998 and 1999.

Without objection, all members' opening statements will be placed in the record at this point.

The bill is open for amendment. There is one amendment listed by Mr. Traficant of Ohio.

[The text of the bill, the opening statement of Chairman Sensenbrenner and the text of the amendment follow:]

105TH CONGRESS
1ST SESSION

H. R. 2249

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 HOUSE OF REPRESENTATIVES

JULY 24, 1997

Mr. SENSENBRENNER (for himself and Mr. BROWN of California) introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Resources, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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

1 (B) by inserting before the period at the
2 end the following: “, \$20,900,000 for the fiscal
3 year ending September 30, 1998, and
4 \$21,500,000 for the fiscal year ending Septem-
5 ber 30, 1999”;

6 (2) in subsection (b)—

7 (A) by striking “and” after “September
8 30, 1995;”;

9 (B) by inserting before the period at the
10 end the following: “; \$52,565,660 for the fiscal
11 year ending September 30, 1998, of which
12 \$3,800,000 shall be used for the Global Seismic
13 Network operated by the Agency; and
14 \$54,052,630 for the fiscal year ending Septem-
15 ber 30, 1999, of which \$3,800,000 shall be
16 used for the Global Seismic Network operated
17 by the Agency”; and

18 (C) by adding at the end the following:
19 “Of the amounts authorized to be appropriated under this
20 subsection, at least—

21 “(1) \$8,000,000 of the amount authorized to be
22 appropriated for the fiscal year ending September
23 30, 1998; and

24 “(2) \$8,250,000 of the amount authorized for
25 the fiscal year ending September 30, 1999,

1 shall be used for carrying out a competitive, peer-reviewed
2 program under which the Director, in close coordination
3 with and as a complement to related activities of the Unit-
4 ed States Geological Survey, awards grants to, or enters
5 into cooperative agreements with, State and local govern-
6 ments and persons or entities from the academic commu-
7 nity and the private sector.”;

8 (3) in subsection (c)—

9 (A) by striking “and” after “September
10 30, 1995;”; and

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

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

20 (A) by striking “and” after “September
21 30, 1995;”; and

22 (B) by inserting before the period at the
23 end the following: “, \$2,000,000 for the fiscal
24 year ending September 30, 1998, and

1 \$2,060,000 for the fiscal year ending Septem-
2 ber 30, 1999”.

3 **SEC. 2. AUTHORIZATION OF REAL-TIME SEISMIC HAZARD**
4 **WARNING SYSTEM DEVELOPMENT, AND**
5 **OTHER ACTIVITIES.**

6 (a) **AUTOMATIC SEISMIC WARNING SYSTEM DEVEL-**
7 **OPMENT.—**

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

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

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

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

24 (2) **IN GENERAL.—**The Director shall conduct a
25 program to develop a prototype real-time seismic

1 warning system. The Director may enter into such
2 agreements or contracts as may be necessary to
3 carry out the program.

4 (3) UPGRADE OF SEISMIC SENSORS.—In carry-
5 ing out a program under paragraph (2), in order to
6 increase the accuracy and speed of seismic event
7 analysis to provide for timely warning signals, the
8 Director shall provide for the upgrading of the net-
9 work of seismic sensors participating in the proto-
10 type to increase the capability of the sensors—

11 (A) to measure accurately large magnitude
12 seismic events (as determined by the Director);
13 and

14 (B) to acquire additional parametric data.

15 (4) DEVELOPMENT OF COMMUNICATIONS AND
16 COMPUTATION INFRASTRUCTURE.—In carrying out a
17 program under paragraph (2), the Director shall de-
18 velop a communications and computation infrastruc-
19 ture that is necessary—

20 (A) to process the data obtained from the
21 upgraded seismic sensor network referred to in
22 paragraph (3); and

23 (B) to provide for, and carry out, such
24 communications engineering and development
25 as is necessary to facilitate—

1 (i) the timely flow of data within a
2 real-time seismic hazard warning system;
3 and

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

6 (5) PROCUREMENT OF COMPUTER HARDWARE
7 AND COMPUTER SOFTWARE.—In carrying out a pro-
8 gram under paragraph (2), the Director shall pro-
9 cure such computer hardware and computer soft-
10 ware as may be necessary to carry out the program.

11 (6) REPORTS ON PROGRESS.—

12 (A) IN GENERAL.—Not later than 120
13 days after the date of enactment of this Act,
14 the Director shall prepare and submit to Con-
15 gress a report that contains a plan for imple-
16 menting a real-time seismic hazard warning
17 system.

18 (B) ADDITIONAL REPORTS.—Not later
19 than 1 year after the date on which the Direc-
20 tor submits the report under subparagraph (A),
21 and annually thereafter, the Director shall pre-
22 pare and submit to Congress a report that sum-
23 marizes the progress of the Director in imple-
24 menting the plan referred to in subparagraph
25 (A).

1 (7) AUTHORIZATION OF APPROPRIATIONS.—In
2 addition to the amounts made available to the Direc-
3 tor under section 12(b) of the Earthquake Hazards
4 Reduction Act of 1977 (42 U.S.C. 7706(b)), there
5 are authorized to be appropriated to the Department
6 of the Interior, to be used by the Director to carry
7 out paragraph (2), \$3,000,000 for each of fiscal
8 years 1998 and 1999.

9 (b) SEISMIC MONITORING NETWORKS ASSESS-
10 MENT.—

11 (1) IN GENERAL.—The Director shall provide
12 for an assessment of regional seismic monitoring
13 networks in the United States. The assessment shall
14 address—

15 (A) the need to update the infrastructure
16 used for collecting seismological data for re-
17 search and monitoring of seismic events in the
18 United States;

19 (B) the need for expanding the capability
20 to record strong ground motions, especially for
21 urban area engineering purposes;

22 (C) the need to measure accurately large
23 magnitude seismic events (as determined by the
24 Director);

1 (D) the need to acquire additional para-
2 metric data; and

3 (E) projected costs for meeting the needs
4 described in subparagraphs (A) through (D).

5 (2) RESULTS.—The Director shall transmit the
6 results of the assessment conducted under this sub-
7 section to Congress not later than 1 year after the
8 date of enactment of this Act.

9 (c) EARTH SCIENCE TEACHING MATERIALS.—

10 (1) DEFINITIONS.—In this subsection:

11 (A) LOCAL EDUCATIONAL AGENCY.—The
12 term “local educational agency” has the mean-
13 ing given that term in section 14101 of the Ele-
14 mentary and Secondary Education Act of 1965
15 (20 U.S.C. 8801).

16 (B) SCHOOL.—The term “school” means a
17 nonprofit institutional day or residential school
18 that provides education for any of the grades
19 kindergarten through grade 12.

20 (2) TEACHING MATERIALS.—In a manner con-
21 sistent with the requirement under section 5(b)(4) of
22 the Earthquake Hazards Reduction Act of 1977 (42
23 U.S.C. 7704(b)(4)) and subject to a merit based
24 competitive process, the Director of the National
25 Science Foundation may use funds made available to

1 him or her under section 12(c) of such Act (42
2 U.S.C. 7706(c)) to develop, and make available to
3 schools and local educational agencies for use by
4 schools, at a minimal cost, earth science teaching
5 materials that are designed to meet the needs of ele-
6 mentary and secondary school teachers and stu-
7 dents.

8 (d) IMPROVED SEISMIC HAZARD ASSESSMENT.—

9 (1) IN GENERAL.—As soon as practicable after
10 the date of enactment of this Act, the Director shall
11 conduct a project to improve the seismic hazard as-
12 sessment of seismic zones.

13 (2) REPORTS.—

14 (A) IN GENERAL.—Not later than 1 year
15 after the date of enactment of this Act, and an-
16 nually during the period of the project, the Di-
17 rector shall prepare, and submit to Congress, a
18 report on the findings of the project.

19 (B) FINAL REPORT.—Not later than 60
20 days after the date of termination of the project
21 conducted under this subsection, the Director
22 shall prepare and submit to Congress a report
23 concerning the findings of the project.

24 (e) STUDY OF NATIONAL EARTHQUAKE EMERGENCY
25 TRAINING CAPABILITIES.—

1 (1) IN GENERAL.—The Director of the Federal
2 Emergency Management Agency shall conduct an
3 assessment of the need for additional Federal disas-
4 ter-response training capabilities that are applicable
5 to earthquake response.

6 (2) CONTENTS OF ASSESSMENT.—The assess-
7 ment conducted under this subsection shall in-
8 clude—

9 (A) a review of the disaster training pro-
10 grams offered by the Federal Emergency Man-
11 agement Agency at the time of the assessment;

12 (B) an estimate of the number and types
13 of emergency response personnel that have, dur-
14 ing the period beginning on January 1, 1990,
15 and ending on July 1, 1997, sought the train-
16 ing referred to in subparagraph (A), but have
17 been unable to receive that training as a result
18 of the oversubscription of the training capabili-
19 ties of the Federal Emergency Management
20 Agency; and

21 (C) a recommendation on the need to pro-
22 vide additional Federal disaster-response train-
23 ing centers.

24 (3) REPORT.—Not later than February 15,
25 1998, the Director of the Federal Emergency Man-

1 agement Agency shall prepare and submit to Con-
2 gress a report that addresses the results of the as-
3 sessment conducted under this subsection.

4 **SEC. 3. COMPREHENSIVE ENGINEERING RESEARCH PLAN.**

5 (a) NATIONAL SCIENCE FOUNDATION.—Section
6 5(b)(4) of the Earthquake Hazards Reduction Act of 1977
7 (42 U.S.C. 7704(b)(4)) is amended—

8 (1) by striking “and” at the end of subpara-
9 graph (D);

10 (2) by striking the period at the end of sub-
11 paragraph (E) and inserting “; and”; and

12 (3) by adding at the end the following:

13 “(F) develop, in conjunction with the Fed-
14 eral Emergency Management Agency, the Na-
15 tional Institute of Standards and Technology,
16 and the United States Geological Survey, a
17 comprehensive plan for earthquake engineering
18 research to effectively use existing testing facili-
19 ties and laboratories (in existence at the time of
20 the development of the plan), upgrade facilities
21 and equipment as needed, and integrate new,
22 innovative testing approaches to the research
23 infrastructure in a systematic manner.”.

1 (b) FEDERAL EMERGENCY MANAGEMENT AGEN-
2 CY.—Section 5(b)(1) of the Earthquake Hazards Reduc-
3 tion Act of 1977 (42 U.S.C. 7704(b)(1)) is amended—

4 (1) by striking “and” at the end of subpara-
5 graph (D);

6 (2) by striking the period at the end of sub-
7 paragraph (E) and inserting “; and”; and

8 (3) by adding at the end the following:

9 “(F) work with the National Science Foun-
10 dation, the National Institute of Standards and
11 Technology, and the United States Geological
12 Survey, to develop a comprehensive plan for
13 earthquake engineering research to effectively
14 use existing testing facilities and laboratories
15 (existing at the time of the development of the
16 plan), upgrade facilities and equipment as need-
17 ed, and integrate new, innovative testing ap-
18 proaches to the research infrastructure in a sys-
19 tematic manner.”.

20 (c) UNITED STATES GEOLOGICAL SURVEY.—Section
21 5(b)(3) of the Earthquake Hazards Reduction Act of 1977
22 (42 U.S.C. 7704(b)(3)) is amended—

23 (1) by striking “and” at the end of subpara-
24 graph (E);

1 (2) by striking the period at the end of sub-
2 paragraph (G) and inserting “; and”; and

3 (3) by adding at the end the following:

4 “(H) work with the National Science
5 Foundation, the Federal Emergency Manage-
6 ment Agency, and the National Institute of
7 Standards and Technology to develop a com-
8 prehensive plan for earthquake engineering re-
9 search to effectively use existing testing facili-
10 ties and laboratories (in existence at the time of
11 the development of the plan), upgrade facilities
12 and equipment as needed, and integrate new,
13 innovative testing approaches to the research
14 infrastructure in a systematic manner.”.

15 (d) NATIONAL INSTITUTE OF STANDARDS AND
16 TECHNOLOGY.—Section 5(b)(5) of the Earthquake Haz-
17 ards Reduction Act of 1977 (42 U.S.C. 7704(b)(5)) is
18 amended—

19 (1) by striking “and” at the end of subpara-
20 graph (B);

21 (2) by striking the period at the end of sub-
22 paragraph (C) and inserting “; and”; and

23 (3) by adding at the end the following:

24 “(D) work with the National Science
25 Foundation, the Federal Emergency Manage-

1 ment Agency, and the United States Geological
2 Survey to develop a comprehensive plan for
3 earthquake engineering research to effectively
4 use existing testing facilities and laboratories
5 (in existence at the time of the development of
6 the plan), upgrade facilities and equipment as
7 needed, and integrate new, innovative testing
8 approaches to the research infrastructure in a
9 systematic manner.”.

10 **SEC. 4. REPEALS.**

11 Sections 6 and 7 of the Earthquake Hazards Reduc-
12 tion Act of 1977 (42 U.S.C. 7705 and 7705a) are re-
13 pealed.

THE HONORABLE F. JAMES SENSENBRENNER, JR.

OPENING STATEMENT

HOUSE COMMITTEE ON SCIENCE
FULL COMMITTEE MARKUP OF H.R. 2249

July 29, 1997

The Committee will now consider H.R. 2249, a bill to authorize the National Earthquake Hazards Reduction Program (NEHRP) for fiscal years 1998 and 1999. I would like to thank my colleague George Brown for his long-standing involvement in this important program and for his work on the bill we have before us today.

H.R. 2249 authorizes approximately \$105 million dollars in FY 1998 and \$107 million in FY 1999 to four agencies, FEMA, USGS, NSF, and NIST, for carrying out their programs under NEHRP. In addition, the bill provides \$3.8 million in each of fiscal years 1998 and 1999 to the USGS for operation of the Global Seismic Network (GSN).

The bill also: (1) Authorizes \$8 million specifically for the USGS's external grants programs, an action consistent with the Science Committee's ongoing efforts to recognize and support external programs within the science

agencies; (2) Establishes a prototype seismic hazard warning system; (3) Requires assessments of regional seismic monitoring networks and disaster training facilities and programs; (4) Authorizes the Director of NSF to use funds to develop earth science teaching materials and to make them available to local schools; (5) Directs the Director of USGS to improve hazards assessments of seismic zones in the United States; and (6) Requires the Director of NSF to work with the other NERHP agencies to develop a plan to effectively use earthquake engineering research facilities, which includes upgrading facilities and equipment and integrating innovative testing approaches.

NEHRP has long enjoyed bipartisan support of the Science Committee because it has helped to sustain a vital earthquake research enterprise which will continue to greatly contribute to better earthquake awareness, more widespread and effective earthquake mitigation, and ultimately, a reduction in lives and property lost from this hazard.

H.R. 2249 will strengthen NERHP and provide for a more robust earthquake science and engineering research infrastructure into the next century. I am pleased to recommend the measure to my colleagues for their approval.

AMENDMENT TO H.R. 2249
OFFERED BY MR. TRAFICANT

Page 14, after line 13, insert the following new section:

1 **SEC. 5. BUY AMERICAN.**

2 (a) **COMPLIANCE WITH BUY AMERICAN ACT.**—No
3 funds appropriated pursuant to the amendments made by
4 section 1 may be expended by an entity unless the entity
5 agrees that in expending the assistance the entity will
6 comply with sections 2 through 4 of the Act of March 3,
7 1933 (41 U.S.C. 10a-10c, popularly known as the “Buy
8 American Act”).

9 (b) **SENSE OF CONGRESS.**—In the case of any equip-
10 ment or products that may be authorized to be purchased
11 with financial assistance provided under the amendments
12 made by section 1, it is the sense of Congress that entities
13 receiving such assistance should, in expending the assist-
14 ance, purchase only American-made equipment and prod-
15 ucts.

16 (c) **NOTICE TO RECIPIENTS OF ASSISTANCE.**—In
17 providing financial assistance under the amendments
18 made by section 1, the Secretary of Commerce shall pro-
19 vide to each recipient of the assistance a notice describing
20 the statement made in subsection (b) by the Congress.

Chairman SENSENBRENNER. Are there any further amendments?
[No response.]

Chairman SENSENBRENNER. The Chair hears none. The Chair recognizes the gentleman from California to make a motion.

Mr. BROWN. Mr. Chairman, I move the Committee report the bill, H.R. 2249, To Authorize Appropriations For Carrying Out The Earthquake Hazards Reduction Act of 1977 For Fiscal Years 1998 and 1999, And For Other Purposes, As Amended.

Furthermore, I move to instruct the staff to prepare the legislative report, to make technical and conforming amendments, and that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman SENSENBRENNER. The Committee has heard the motion. The Chair notes the presence of a reporting quorum.

All those in favor of the motion will signify by saying, aye?

[Chorus of ayes.]

Chairman SENSENBRENNER. Opposed, no?

[No response.]

Chairman SENSENBRENNER. The ayes have it, and the bill is ordered reported.

Without objection the staff is reported to prepare the legislative report, to make technical and conforming amendments, and to prepare the necessary papers to bring the bill before the House.

Without objection, the Motion To Reconsider is laid upon the table.

[No response.]

Chairman SENSENBRENNER. Without objection, members have 2 subsequent calendar days in which to submit Supplemental, Minority or Additional views on the measure.

[No response.]

Chairman SENSENBRENNER. And, without objection, pursuant to Clause 1 of Rule 20 of the Rules of the House of Representatives, the Committee authorizes the Chairman to offer such motions as may be necessary in the House to go to Conference with the Senate on the bill.

Is there any objection to any of those unanimous consent requests?

[No response.]

Chairman SENSENBRENNER. Hearing none, so ordered.

[Whereupon, at 1:19 p.m., the markup of H.R. 2249 was completed and the Committee immediately proceeded to consideration of H.R. 922.]

XIX. LETTER OF DISCHARGE FROM COMMITTEE ON RESOURCES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON RESOURCES,
Washington, DC, August 1, 1997.

Hon. F. JAMES SENSENBRENNER, Jr.,
Chairman, Committee on Science,
Rayburn HOB, Washington, DC.

DEAR MR. CHAIRMAN: H.R. 2249, to authorize appropriations for carrying out the Earthquake Hazards Reduction Act of 1977 for fiscal years 1998 and 1999, was referred to the Committee on Science

and additionally to the Committee on Resources. The Committee on Resources has jurisdiction over the "Geological Survey" under Rule X of the Rules of the House of Representatives, and major portions of the Earthquake Hazards Reduction Act are implemented by the Director of the United States Geological Survey (USGS).

I have reviewed the bill as ordered reported from the Committee on Science on July 29, 1997, and have no objection to the provisions affecting USGS. Therefore, I would be happy to waive the Committee on Resources' jurisdiction over H.R. 2249 to allow it to be scheduled for Floor consideration as soon as possible. Representing a State that has been devastated by earthquakes in the past, I know first hand the need for this program.

This waiver of Committee jurisdiction should not be construed to affect any future referrals of bills dealing with the same subject matter. I also reserve the right to request that the Committee on Resources be represented on any conference on this bill or related legislation if a conference becomes necessary. Finally, I ask that this letter be made part of the report on the bill.

Thank you for keeping me and my staff apprised of the progress on H.R. 2249 and I look forward to its enactment.

Sincerely,

DON YOUNG,
Chairman.

○