

NATURAL HAZARDS RISK REDUCTION ACT OF 2009

—————
FEBRUARY 26, 2010.—Committed to the Committee of the Whole House on the State
of the Union and ordered to be printed
—————

Mr. GORDON of Tennessee, from the Committee on Science and
Technology, submitted the following

R E P O R T

[To accompany H.R. 3820]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred the bill (H.R. 3820) to reauthorize Federal natural hazards reduction programs, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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I. BILL

The amendment is as follows:
Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Natural Hazards Risk Reduction Act of 2009”.

SEC. 2. FINDINGS.

Congress finds the following:

(1) The United States faces significant risks from many types of natural hazards, including earthquakes, hurricanes, tornadoes, wildfires, and floods. Increasing numbers of Americans are living in areas prone to these hazards.

(2) Earthquakes occur without warning and can have devastating effects. According to the U.S. Geological Survey, two recent earthquakes, the Northridge Earthquake in 1994, and the Loma Prieta Earthquake in 1989, killed nearly 100 people, injured 12,757, and caused \$33 billion in damages. Nearly all States face some level of seismic risk. Twenty-six urban areas in 14 States have a significant seismic risk.

(3) Severe weather is the most costly natural hazard, measured on a per year basis. According to data from the National Weather Service over the last 10 years, tornadoes, thunderstorms, and hurricanes have caused an average of 226 fatalities and \$16 billion of property damage per year. The 2005 hurricane season was one of the most destructive in United States history, killing 1,836 people, and causing \$80 billion in damage.

(4) The United States Fire Administration reports that 38 percent of new home construction in 2002 was in areas adjacent to, or intermixed with, wildlands. Fires in the wildland-urban interface are costly. For example, the 2007 California Witch fire alone caused \$1.3 billion in insured property losses, according to the Insurance Services Office (ISO). In addition, Government Accountability Office reported in 2007 that the Federal spending for wildfire suppression between 2001 and 2005 was, on average, \$2.9 billion per year.

(5) Developing better knowledge about natural hazard phenomena and their effects is crucial to assessing the risks these hazards pose to communities. Instrumentation, monitoring, and data gathering to characterize earthquakes and wind events are important activities to increase this knowledge.

(6) Current building codes and standards can mitigate the damages caused by natural hazards. The Institute for Business and Home Safety estimated that the \$19 billion in damage caused by Hurricane Andrew in 1994 could have been reduced by half if such codes and standards were in effect. Research for the continuous improvement of building codes, standards, and design practices—and for developing methods to retrofit existing structures—is crucial to mitigating losses from natural hazards.

(7) Since its creation in 1977, the National Earthquake Hazards Reduction Program (NEHRP) has supported research to develop seismic codes, standards, and building practices that have been widely adopted. The NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures and the Guidance for Seismic Performance Assessment of Buildings are two examples.

(8) Research to understand the institutional, social, behavioral, and economic factors that influence how households, businesses, and communities perceive risk and prepare for natural hazards, and how well they recover after a disaster, can increase the implementation of risk mitigation measures.

(9) A major goal of the Federal natural hazards-related research and development effort should be to reduce the loss of life and damage to communities and infrastructure through increasing the adoption of hazard mitigation measures.

(10) Research, development, and technology transfer to secure infrastructure is vitally important. Infrastructure that supports electricity, transportation, drinking water, and other services is vital immediately after a disaster, and their quick return to function speeds the economic recovery of a disaster-impacted community.

TITLE I—EARTHQUAKES**SEC. 101. SHORT TITLE.**

This title may be cited as the “National Earthquake Hazards Reduction Program Reauthorization Act of 2009”.

SEC. 102. FINDINGS.

Section 2 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701) is repealed.

SEC. 103. DEFINITIONS.

Section 4 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7703) is amended by striking paragraphs (8) and (9).

SEC. 104. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

Section 5 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7704) is amended—

(1) in subsection (a)—

(A) by amending paragraph (2) to read as follows:

“(2) PROGRAM ACTIVITIES.—The activities of the Program shall be designed to—

“(A) research and develop effective methods, tools, and technologies to reduce the risk posed by earthquakes to the built environment, especially to lessen the risk to existing structures and lifelines;

“(B) improve the understanding of earthquakes and their effects on households, businesses, communities, buildings, structures, and lifelines, through interdisciplinary and multidisciplinary research that involves engineering, natural sciences, and social sciences; and

“(C) facilitate the adoption of earthquake risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning for disasters and planning, constructing, retrofitting, and insuring buildings, structures, and lifelines through—

“(i) grants, contracts, cooperative agreements, and technical assistance;

“(ii) development of standards, guidelines, voluntary consensus standards, and other design guidance for earthquake hazards risk reduction for buildings, structures, and lifelines;

“(iii) outreach and information dissemination to communities on location-specific earthquake hazards and methods to reduce the risks from those hazards; and

“(iv) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction.”; and

(B) by striking paragraphs (3) through (5);

(2) by amending subsection (b) to read as follows:

“(b) RESPONSIBILITIES OF PROGRAM AGENCIES.—

“(1) LEAD AGENCY.—The National Institute of Standards and Technology (in this section referred to as the ‘Institute’) shall be responsible for planning and coordinating the Program. In carrying out this paragraph, the Director of the Institute shall—

“(A) ensure that the Program includes the necessary components to promote the implementation of earthquake hazards risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in preparing for disasters, or the planning, constructing, retrofitting, and insuring of buildings, structures, and lifelines;

“(B) support the development of performance-based seismic engineering tools, and work with the appropriate groups to promote the commercial application of such tools, through earthquake-related building codes, standards, and construction practices;

“(C) ensure the use of social science research and findings in informing research and technology development priorities, communicating earthquake risks to the public, developing earthquake risk mitigation strategies, and preparing for earthquake disasters;

“(D) coordinate all Federal post-earthquake investigations; and

“(E) when warranted by research or investigative findings, issue recommendations for changes in model codes to the relevant code development organizations, and report back to Congress on whether such recommendations were adopted.

“(2) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—In addition to the lead agency responsibilities described under paragraph (1), the Institute shall be responsible for carrying out research and development to improve building codes and standards and practices for buildings, structures, and lifelines. In carrying out this paragraph, the Director of the Institute shall—

“(A) work, in conjunction with other appropriate Federal agencies, to support the development of improved seismic standards and model codes;

“(B) in coordination with other appropriate Federal agencies, work closely with standards and model code development organizations, professional societies, and practicing engineers, architects, and others involved in the construction of buildings, structures, and lifelines, to promote better building practices, including by—

“(i) developing technical resources for practitioners on new knowledge and standards of practice; and

“(ii) developing methods and tools to facilitate the incorporation of earthquake engineering principles into design and construction practices;

“(C) develop tools, technologies, methods, and practitioner guidance to feasibly and cost-effectively retrofit existing buildings and structures to increase their earthquake resiliency; and

“(D) work closely with national standards organizations, and other interested parties, to develop seismic safety standards and practices for new and existing lifelines.

“(3) FEDERAL EMERGENCY MANAGEMENT AGENCY.—

“(A) IN GENERAL.—The Federal Emergency Management Agency (in this paragraph referred to as the ‘Agency’) shall be responsible for facilitating the development and adoption of standards, model building codes, and better seismic building practices, developing tools to assess earthquake hazards, promoting the adoption of hazard mitigation measures, and carrying out a program of direct assistance to States and localities to mitigate earthquake risks to buildings, structures, lifelines, and communities.

“(B) DIRECTOR’S DUTIES.—The Director of the Agency shall—

“(i) work closely with other relevant Federal agencies, standards and model building code development organizations, architects, engineers, and other professionals, to facilitate the development and adoption of standards, model codes, and design and construction practices to increase the earthquake resiliency of new and existing buildings, structures, and lifelines in the—

“(I) preparation, maintenance, and wide dissemination of design guidance, model building codes and standards, and practices to increase the earthquake resiliency of new and existing buildings, structures, and lifelines;

“(II) development of performance-based design guidelines and methodologies supporting model codes for buildings, structures, and lifelines; and

“(III) development of methods and tools to facilitate the incorporation of earthquake engineering principles into design and construction practices;

“(ii) develop tools, technologies, and methods to assist local planners, and others, to model and predict the potential impact of earthquake damage in seismically hazardous areas; and

“(iii) support the implementation of a comprehensive earthquake education and public awareness program, including the development of materials and their wide dissemination to all appropriate audiences, and support public access to locality-specific information that may assist the public in preparing for, mitigating against, responding to, and recovering from earthquakes and related disasters.

“(C) STATE ASSISTANCE GRANT PROGRAM.—The Director of the Agency shall operate a program of grants and assistance to enable States to develop mitigation, preparedness, and response plans, compare inventories and conduct seismic safety inspections of critical structures and lifelines, update building and zoning codes and ordinances to enhance seismic safety, increase earthquake awareness and education, and encourage the development of multistate groups for such purposes. In order to qualify for assistance under this subparagraph, a State must—

“(i) demonstrate that the assistance will result in enhanced seismic safety in the State;

“(ii) provide 50 percent of the costs of the activities for which assistance is being given, except that the Director may lower or waive the cost-share requirement for these activities in exceptional cases of economic hardship; and

“(iii) meet such other requirements as the Director of the Agency shall prescribe.

“(4) UNITED STATES GEOLOGICAL SURVEY.—The United States Geological Survey (in this paragraph referred to as the ‘Survey’) shall conduct research and other activities necessary to characterize and identify earthquake hazards, assess earthquake risks, monitor seismic activity, and provide real-time earthquake information. In carrying out this paragraph, the Director of the Survey shall—

“(A) conduct a systematic assessment of the seismic risks in each region of the Nation prone to earthquakes, including, where appropriate, the establishment and operation of intensive monitoring projects on hazardous faults, detailed seismic hazard and risk studies in urban and other developed areas where earthquake risk is determined to be significant, and engineering seismology studies;

“(B) work with officials of State and local governments to ensure that they are knowledgeable about the specific seismic risks in their areas;

“(C) develop standard procedures, in consultation with the Director of the Federal Emergency Management Agency, for issuing earthquake alerts, including aftershock advisories;

“(D) issue when justified, and notify the Director of the Federal Emergency Management Agency of, an earthquake prediction or other earthquake advisory, which may be evaluated by the National Earthquake Prediction Evaluation Council;

“(E) operate, as integral parts of the Advanced National Seismic Research and Monitoring System, a National Earthquake Information Center and a national seismic network, together providing timely and accurate information on earthquakes world-wide;

“(F) support the operation of regional seismic networks in areas of higher seismic risk;

“(G) develop and support seismic instrumentation of buildings and other structures to obtain data on their response to earthquakes for use in engineering studies and assessment of damage;

“(H) monitor and assess Earth surface deformation as it pertains to the evaluation of earthquake hazards and impacts;

“(I) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, earthquake risk reduction efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries;

“(J) maintain suitable seismic hazard maps in support of building codes for structures and lifelines, including additional maps needed for performance-based design approaches;

“(K) conduct a competitive, peer-reviewed process which awards grants and cooperative agreements to complement and extend related internal Survey research and monitoring activities; and

“(L) operate, in cooperation with the National Science Foundation, a Global Seismographic Network for detection of earthquakes around the world and research into fundamental earth processes.

“(5) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding basic research that furthers the understanding of earthquakes, earthquake engineering, and community preparation and response to earthquakes. In carrying out this paragraph, the Director of the National Science Foundation shall—

“(A) support multidisciplinary and interdisciplinary research that will improve the resiliency of communities to earthquakes, including—

“(i) research that improves the safety and performance of buildings, structures, and lifelines, including the use of the large-scale experimental and computational facilities of the George E. Brown, Jr. Network for Engineering Earthquake Simulation;

“(ii) research to support more effective earthquake mitigation and response measures, such as developing better knowledge of the specific types of vulnerabilities faced by segments of the community vulnerable to earthquakes, addressing the barriers they face in adopting mitigation and preparation measures, and developing methods to better communicate the risks of earthquakes and to promote mitigation; and

“(iii) research on the response of communities, households, businesses, and emergency responders to earthquakes;

“(B) support research to understand earthquake processes, earthquake patterns, and earthquake frequencies;

“(C) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and de-

velopment of intellectual property so research results can be used by appropriate organizations to mitigate earthquake damage;

“(D) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, earthquake risk reduction research efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries; and

“(E) include to the maximum extent practicable diverse institutions, including Historically Black Colleges and Universities, Hispanic-serving institutions, Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions.”; and

(3) in subsection (c)(1) by inserting “on Natural Hazards Risk Reduction established under section 301 of the Natural Hazards Risk Reduction Act of 2009” after “Interagency Coordinating Committee”.

SEC. 105. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.

Section 11 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7705e) is amended by striking “There is established” and all that follows through “conduct of such earthquake investigations.” and inserting “The Program shall include a post-earthquake investigations program, the purpose of which is to investigate major earthquakes so as to learn lessons which can be applied to reduce the loss of lives and property in future earthquakes. The lead Program agency, in consultation with each Program agency, shall organize investigations to study the implications of the earthquakes in the areas of responsibility of each Program agency. The investigations shall begin as rapidly as possible and may be conducted by grantees and contractors. The Program agencies shall ensure that the results of the investigations are disseminated widely.”.

SEC. 106. AUTHORIZATION OF APPROPRIATIONS.

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

(1) by adding at the end of subsection (a) the following:

“(9) There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this Act—

“(A) \$10,238,000 for fiscal year 2010;

“(B) \$10,545,000 for fiscal year 2011;

“(C) \$10,861,000 for fiscal year 2012;

“(D) \$11,187,000 for fiscal year 2013; and

“(E) \$11,523,000 for fiscal year 2014.”;

(2) by adding at the end of subsection (b) the following:

“(3) There are authorized to be appropriated to the United States Geological Survey for carrying out this Act, including the Advanced National Seismic Research and Monitoring System—

“(A) \$70,000,000 for fiscal year 2010;

“(B) \$72,100,000 for fiscal year 2011;

“(C) \$74,263,000 for fiscal year 2012;

“(D) \$76,491,000 for fiscal year 2013; and

“(E) \$78,786,000 for fiscal year 2014.”;

(3) by adding at the end of subsection (c) the following:

“(3) There are authorized to be appropriated to the National Science Foundation for carrying out this Act—

“(A) \$64,125,000 for fiscal year 2010;

“(B) \$66,049,000 for fiscal year 2011;

“(C) \$68,030,000 for fiscal year 2012;

“(D) \$70,071,000 for fiscal year 2013; and

“(E) \$72,173,000 for fiscal year 2014.”; and

(4) by adding at the end of subsection (d) the following:

“(3) There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this Act—

“(A) \$7,000,000 for fiscal year 2010;

“(B) \$7,700,000 for fiscal year 2011;

“(C) \$7,931,000 for fiscal year 2012;

“(D) \$8,169,000 for fiscal year 2013; and

“(E) \$8,414,000 for fiscal year 2014.”.

(b) CONFORMING AMENDMENT.—Section 14 of the National Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7708) is amended—

(1) by striking “(a) ESTABLISHMENT.—”; and

(2) by striking subsection (b).

TITLE II—WIND

SEC. 201. SHORT TITLE.

This title may be cited as the “National Windstorm Impact Reduction Act Reauthorization of 2009”.

SEC. 202. PURPOSE.

Section 202 of the National Windstorm Impact Reduction Act of 2004 (42 U.S.C. 15701) is amended to read as follows:

“SEC. 202. PURPOSE.

“It is the purpose of the Congress in this title to achieve a major measurable reduction in losses of life and property from windstorms through the establishment and maintenance of an effective Windstorm Impact Reduction Program. The objectives of such Program shall include—

“(1) the education of households, businesses, and communities about the risks posed by windstorms, and the identification of locations, structures, lifelines, and segments of the community which are especially vulnerable to windstorm damage and disruption, and the dissemination of information on methods to reduce those risks;

“(2) the development of technologically and economically feasible design and construction methods and procedures to make new and existing structures, in areas of windstorm risk, windstorm resilient, giving high priority to the development of such methods and procedures for lifelines, structures associated with a potential high loss of life, and structures that are especially needed in times of disasters, such as hospitals and public safety and shelter facilities;

“(3) the implementation, in areas of major windstorm risk, of instrumentation to record and gather data on windstorms and the characteristics of the wind during those events, and continued research to increase the understanding of windstorm phenomena;

“(4) the development, publication, and promotion, in conjunction with State and local officials and professional organizations, of model building codes and standards and other means to encourage consideration of information about windstorm risk in making decisions about land use policy and construction activity; and

“(5) the facilitation of the adoption of windstorm risk mitigation measures in areas of windstorm risk by households, businesses, and communities through outreach, incentive programs, and other means.”.

SEC. 203. DEFINITIONS.

Section 203(1) of the National Windstorm Impact Reduction Act of 2004 (42 U.S.C. 15702(1)) is amended by striking “Director of the Office of Science and Technology Policy” and inserting “Director of the National Institute of Standards and Technology”.

SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION PROGRAM.

Section 204 of the National Windstorm Impact Reduction Act of 2004 (42 U.S.C. 15703) is amended to read as follows:

“SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION PROGRAM.

“(a) ESTABLISHMENT.—There is established the National Windstorm Impact Reduction Program.

“(b) PROGRAM ACTIVITIES.—The activities of the Program shall be designed to—

“(1) research and develop cost-effective, feasible methods, tools, and technologies to reduce the risks posed by windstorms to the built environment, especially to lessen the risk to existing structures and lifelines;

“(2) improve the understanding of windstorms and their impacts on households, businesses, communities, buildings, structures, and lifelines, through interdisciplinary and multidisciplinary research that involves engineering, natural sciences, and social sciences; and

“(3) facilitate the adoption of windstorm risk reduction measures by households, businesses, communities, local, State and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning for disasters and planning, constructing, retrofitting, and insuring buildings, structures, and lifelines through—

“(A) grants, contracts, cooperative agreements, and technical assistance;

“(B) development of hazard maps, standards, guidelines, voluntary consensus standards, and other design guidance for windstorm risk reduction for buildings, structures, and lifelines;

“(C) outreach and information dissemination to communities on site specific windstorm hazards and ways to reduce the risks from those hazards; and

“(D) development and maintenance of a repository of information, including technical data, on windstorm hazards and risk reduction;

“(c) RESPONSIBILITIES OF PROGRAM AGENCIES.—

“(1) LEAD AGENCY.—The National Institute of Standards and Technology (in this section referred to as the ‘Institute’) shall be responsible for planning and coordinating the Program. In carrying out this paragraph, the Director of the Institute shall—

“(A) ensure that the Program includes the necessary components to promote the implementation of windstorm risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning and preparing for disasters, and planning constructing, and retrofitting, and insuring buildings, structures, and lifelines;

“(B) support the development of performance-based engineering tools, and work with the appropriate groups to promote the commercial application of such tools, through wind-related building codes, standards, and construction practices;

“(C) ensure the use of social science research and findings in informing the development of technology and research priorities, in communicating windstorm risks to the public, in developing windstorm risk mitigation strategies, and in preparing for windstorm disasters;

“(D) coordinate all Federal post-windstorm investigations; and

“(E) when warranted by research or investigative findings, issue recommendations for changes in model codes to the relevant code development organizations, and report back to Congress on whether such recommendations were adopted.

“(2) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—In addition to the lead agency responsibilities described under paragraph (1), the Institute shall be responsible for carrying out research and development to improve model codes, standards, design guidance and practices for the construction and retrofit of buildings, structures, and lifelines. In carrying out this paragraph, the Director of the Institute shall—

“(A) support the development of instrumentation, data processing, and archival capabilities, and standards for the instrumentation and its deployment, to measure wind, wind loading, and other properties of severe wind and structure response;

“(B) coordinate with other appropriate Federal agencies to make the data described in subparagraph (A) available to researchers, standards and code developers, and local planners;

“(C) support the development of tools and methods for the collection of data on the loss of and damage to structures, and data on surviving structures after severe windstorm events;

“(D) improve the knowledge of the impact of severe wind on buildings, structures, lifelines, and communities;

“(E) develop cost-effective windstorm impact reduction tools, methods, and technologies;

“(F) work, in conjunction with other appropriate Federal agencies, to support the development of wind standards and model codes; and

“(G) in conjunction with other appropriate Federal agencies, work closely with standards and model code development organizations, professional societies, and practicing engineers, architects, and others involved in the construction of buildings, structures, and lifelines, to promote better building practices, including by—

“(i) supporting the development of technical resources for practitioners to implement new knowledge; and

“(ii) supporting the development of methods and tools to incorporate wind engineering principles into design and construction practices.

“(3) FEDERAL EMERGENCY MANAGEMENT AGENCY.—The Federal Emergency Management Agency shall support the development of risk assessment tools and effective mitigation techniques, assist with windstorm-related data collection and analysis, and support outreach, information dissemination, and implementation of windstorm preparedness and mitigation measures by households, businesses, and communities, including by—

“(A) working to develop or improve risk-assessment tools, methods, and models;

“(B) work closely with other appropriate Federal agencies to develop and facilitate the adoption of windstorm impact reduction measures, including by—

“(i) developing cost-effective retrofit measures for existing buildings, structures, and lifelines to improve windstorm performance;

“(ii) developing methods, tools, and technologies to improve the planning, design, and construction of new buildings, structures, and lifelines;

“(iii) supporting the development of model wind codes and standards for buildings, structures, and lifelines; and

“(iv) developing technical resources for practitioners that reflect new knowledge and standards of practice; and

“(C) develop and disseminate guidelines for the construction of windstorm shelters.

“(4) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—The National Oceanic and Atmospheric Administration shall support atmospheric sciences research and data collection to improve the understanding of the behavior of windstorms and their impact on buildings, structures, and lifelines, including by—

“(A) working with other appropriate Federal agencies to develop and deploy instrumentation to measure speed and other characteristics of wind, and to collect, analyze, and make available such data;

“(B) working with officials of State and local governments to ensure that they are knowledgeable about, and prepared for, the specific windstorm risks in their area;

“(C) supporting the development of suitable wind speed maps and other derivative products that support building codes and other hazard mitigation approaches for buildings, structures, and lifelines;

“(D) conducting a competitive, peer-reviewed process which awards grants and cooperative agreements to complement the National Oceanic and Atmospheric Administration’s wind-related and storm surge-related research and data collection activities;

“(E) working with other appropriate Federal agencies and State and local governments to develop or improve risk-assessment tools, methods, and models; and

“(F) working with other appropriate Federal agencies to develop storm surge models to better understand the interaction between windstorms and bodies of water.

“(5) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding basic research that furthers the understanding of windstorms, wind engineering, and community preparation and response to windstorms. In carrying out this paragraph, the Director of the National Science Foundation shall—

“(A) support multidisciplinary and interdisciplinary research that will improve the resiliency of communities to windstorms, including—

“(i) research that improves the safety and performance of buildings, structures, and lifelines;

“(ii) research to support more effective windstorm mitigation and response measures, such as developing better knowledge of the specific types of vulnerabilities faced by segments of the community vulnerable to windstorms, addressing the barriers they face in adopting mitigation and preparation measures, and developing methods to better communicate the risks of windstorms and to promote mitigation; and

“(iii) research on the response of communities to windstorms, including on the effectiveness of the emergency response, and the recovery process of communities, households, and businesses;

“(B) support research to understand windstorm processes, windstorm patterns, and windstorm frequencies;

“(C) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and development of intellectual property so research results can be used by appropriate organizations to mitigate windstorm damage;

“(D) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, windstorm risk reduction research efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries; and

“(E) include to the maximum extent practicable diverse institutions, including Historically Black Colleges and Universities, Hispanic-serving insti-

tutions, Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions.”.

SEC. 205. AUTHORIZATION OF APPROPRIATIONS.

Section 207 of the National Windstorm Impact Reduction Program of 2004 (42 U.S.C. 15706) is amended to read as follows:

“SEC. 207. AUTHORIZATION OF APPROPRIATIONS.

“(a) FEDERAL EMERGENCY MANAGEMENT AGENCY.—There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this title—

- “(1) \$9,682,000 for fiscal year 2010;
- “(2) \$9,972,500 for fiscal year 2011;
- “(3) \$10,271,600 for fiscal year 2012;
- “(4) \$10,579,800 for fiscal year 2013; and
- “(5) \$10,897,200 for fiscal year 2014.

“(b) NATIONAL SCIENCE FOUNDATION.—There are authorized to be appropriated to the National Science Foundation for carrying out this title—

- “(1) \$9,682,000 for fiscal year 2010;
- “(2) \$9,972,500 for fiscal year 2011;
- “(3) \$10,271,600 for fiscal year 2012;
- “(4) \$10,579,800 for fiscal year 2013; and
- “(5) \$10,897,200 for fiscal year 2014.

“(c) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this title—

- “(1) \$4,120,000 for fiscal year 2010;
- “(2) \$4,243,600 for fiscal year 2011;
- “(3) \$4,370,900 for fiscal year 2012;
- “(4) \$4,502,000 for fiscal year 2013; and
- “(5) \$4,637,100 for fiscal year 2014.

“(d) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—There are authorized to be appropriated to the National Oceanic and Atmospheric Administration for carrying out this title—

- “(1) \$2,266,000 for fiscal year 2010;
- “(2) \$2,334,000 for fiscal year 2011;
- “(3) \$2,404,000 for fiscal year 2012;
- “(4) \$2,476,100 for fiscal year 2013; and
- “(5) \$2,550,400 for fiscal year 2014.”.

TITLE III—INTERAGENCY COORDINATING COMMITTEE ON NATURAL HAZARDS RISK REDUCTION

SEC. 301. INTERAGENCY COORDINATING COMMITTEE ON NATURAL HAZARDS RISK REDUCTION.

(a) IN GENERAL.—There is established an Interagency Coordinating Committee on Natural Hazards Risk Reduction, chaired by the Director of the National Institute of Standards and Technology.

(1) MEMBERSHIP.—In addition to the chair, the Committee shall be composed of—

- (A) the directors of—
 - (i) the Federal Emergency Management Agency;
 - (ii) the United State Geological Survey;
 - (iii) the National Oceanic and Atmospheric Administration;
 - (iv) the National Science Foundation;
 - (v) the Office of Science and Technology Policy; and
 - (vi) the Office of Management and Budget; and
- (B) the head of any other Federal agency the Committee considers appropriate.

(2) MEETINGS.—The Committee shall not meet less than 2 times a year at the call of the Director of the National Institute of Standards and Technology.

(3) GENERAL PURPOSE AND DUTIES.—The Committee shall oversee the planning and coordination of the National Earthquake Hazards Reduction Program and the National Windstorm Impact Reduction Program, and shall make proposals for planning and coordination of any other Federal research for natural hazard mitigation that the Committee considers appropriate.

(4) STRATEGIC PLANS.—The Committee shall develop and submit to Congress, not later than one year after the date of enactment of this Act—

(A) a Strategic Plan for the National Earthquake Hazards Reduction Program that includes—

(i) prioritized goals for such Program that will mitigate against the loss of life and property from future earthquakes;

(ii) short-term, mid-term, and long-term research objectives to achieve those goals;

(iii) a description of the role of each Program agency in achieving the prioritized goals;

(iv) the methods by which progress towards the goals will be assessed;

(v) an explanation of how the Program will foster the transfer of research results onto outcomes, such as improved building codes;

(vi) a description of the role of social science in informing the development of the prioritized goals and research objectives; and

(vii) a description of how the George E. Brown, Jr. Network for Earthquake Engineering Simulation and the Advanced National Seismic Research and Monitoring System will be used in achieving the prioritized goals and research objectives; and

(B) a Strategic Plan for the National Windstorm Impact Reduction Program that includes—

(i) prioritized goals for such Program that will mitigate against the loss of life and property from future windstorms;

(ii) short-term, mid-term, and long-term research objectives to achieve those goals;

(iii) a description of the role of each Program agency in achieving the prioritized goals;

(iv) the methods by which progress towards the goals will be assessed;

(v) an explanation of how the Program will foster the transfer of research results onto outcomes, such as improved building codes; and

(vi) a description of the role of social science in informing the development of the prioritized goals and research objectives.

(5) PROGRESS REPORTS.—Not later than one year after the date of enactment of this Act, and at least once every two years thereafter, the Committee shall submit to the Congress—

(A) a report on the progress of the National Earthquake Hazards Reduction Program that includes—

(i) a description of the activities funded for the previous two years of the Program, a description of how these activities align with the prioritized goals and research objectives established in the Strategic Plan, and the budgets, per agency, for these activities;

(ii) the outcomes achieved by the Program for each of the goals identified in the Strategic Plan;

(iii) a description of any recommendations made to change existing building codes that were the result of Program activities; and

(iv) a description of the extent to which the Program has incorporated recommendations from the Advisory Committee on Earthquake Hazards Reduction; and

(B) a report on the progress of the National Windstorm Impact Reduction Program that includes—

(i) a description of the activities funded for the previous two years of the Program, a description of how these activities align with the prioritized goals and research objectives established in the Strategic Plan, and the budgets, per agency, for these activities;

(ii) the outcomes achieved by the Program for each of the goals identified in the Strategic Plan;

(iii) a description of any recommendations made to change existing building codes that were the result of Program activities; and

(iv) a description of the extent to which the Program has incorporated recommendations from the Advisory Committee on Windstorm Impact Reduction.

(6) COORDINATED BUDGET.—The Committee shall develop a coordinated budget for the National Earthquake Hazards Reduction Program and a coordinated budget for the National Windstorm Impact Reduction Program. These budgets shall be submitted to the Congress at the time of the President's budget submission for each fiscal year.

(b) ADVISORY COMMITTEES ON NATURAL HAZARDS REDUCTION.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology shall establish an Advisory Committee on Earthquake Hazards Reduction, an Advisory Committee on Windstorm Impact Reduction, and other such advisory committees as the Director considers necessary to advise the Institute on research, development, and technology transfer activities to mitigate the impact of natural disasters.

(2) ADVISORY COMMITTEE ON EARTHQUAKE HAZARDS REDUCTION.—The Advisory Committee on Earthquake Hazards Reduction shall be composed of at least 11 members, none of whom may be employees of the Federal Government, including representatives of research and academic institutions, industry standards development organizations, State and local government, and business communities who are qualified to provide advice on earthquake hazards reduction and represent all related scientific, architectural, and engineering disciplines. The recommendations of the Advisory Committee shall be considered by Federal agencies in implementing the National Earthquake Hazards Reduction Program.

(3) ADVISORY COMMITTEE ON WINDSTORM IMPACT REDUCTION.—The Advisory Committee on Windstorm Impact Reduction shall be composed of at least 7 members, none of whom may be employees of the Federal Government, including representatives of research and academic institutions, industry standards development organizations, State and local government, and business communities who are qualified to provide advice on windstorm impact reduction and represent all related scientific, architectural, and engineering disciplines. The recommendations of the Advisory Committee shall be considered by Federal agencies in implementing the National Windstorm Impact Reduction Program.

(4) ASSESSMENTS.—The Advisory Committee on Earthquake Hazards Reduction and the Advisory Committee on Windstorm Impact Reduction shall offer assessments on—

(A) trends and developments in the natural, social, and engineering sciences and practices of earthquake hazards or windstorm impact mitigation;

(B) the priorities of the Programs' Strategic Plans;

(C) the coordination of the Programs; and

(D) and any revisions to the Programs which may be necessary.

(5) REPORTS.—At least every two years, the Advisory Committees shall report to the Director of the National Institute of Standards and Technology on the assessments carried out under paragraph (4) and their recommendations for ways to improve the Programs. In developing recommendations for the National Earthquake Hazards Reduction Program, the Advisory Committee on Earthquake Hazards Reduction shall consider the recommendations of the United States Geological Survey Scientific Earthquake Studies Advisory Committee.

(c) COORDINATION OF FEDERAL DISASTER RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER.—Not later than 2 years after the date of enactment of this Act, the Subcommittee on Disaster Reduction of the Committee on Environment and Natural Resources of the National Science and Technology Council shall submit a report to the Congress identifying—

(1) current Federal research, development, and technology transfer activities that address hazard mitigation for natural disasters, including earthquakes, hurricanes, tornados, wildfires, floods, and the current budgets for these activities;

(2) areas of research that are common to two or more of the hazards identified in paragraph (1); and

(3) opportunities to create synergies between the research activities for the hazards identified in paragraph (1).

TITLE IV—NATIONAL CONSTRUCTION SAFETY TEAM ACT AMENDMENTS

SEC. 401. NATIONAL CONSTRUCTION SAFETY TEAM ACT AMENDMENTS.

The National Construction Safety Team Act (15 U.S.C. 7301 et seq.) is amended—

(1) in section 2(a)—

(A) by striking “a building or buildings” and inserting “a building, buildings, or infrastructure”; and

(B) by striking “To the maximum extent practicable, the Director shall establish and deploy a Team within 48 hours after such an event.” and inserting “The Director shall make a decision whether to deploy a Team within 72 hours after such an event.”;

- (2) in section 2(b)(1), by striking “buildings” and inserting “buildings or infrastructure”;
- (3) in section 2(b)(2)(A), by striking “building” and inserting “building or infrastructure”;
- (4) in section 2(b)(2)(D), by striking “buildings” and inserting “buildings or infrastructure”;
- (5) in section 2(c)(1), by striking “the United States Fire Administration and”;
- (6) in section 2(c)(1)(G), by striking “building” and inserting “building or infrastructure”;
- (7) in section 2(c)(1)(J)—
 - (A) by striking “building” and inserting “building or infrastructure”; and
 - (B) by inserting “and the National Windstorm Impact Reduction Act of 2004” after “Act of 1977”;
- (8) in section 4(a), by striking “investigating a building” and inserting “investigating building and infrastructure”;
- (9) in section 4(a)(1)—
 - (A) by striking “a building” and inserting “a building or infrastructure”; and
 - (B) by striking “building” both of the other places it appears and inserting “building or infrastructure”;
- (10) in section 4(a)(3), by striking “building” both places it appears and inserting “building or infrastructure”;
- (11) in section 4(b), by striking “building” both places it appears and inserting “building or infrastructure”;
- (12) in section 4(c)(1) and (2), by striking “building” both places it appears and inserting “building or infrastructure”;
- (13) in section 4(d)(3) and (4), by striking “building” both places it appears and inserting “building or infrastructure”;
- (14) in section 7(a), by striking “on request and at reasonable cost”;
- (15) in section 7(c), by striking “building” and inserting “building or infrastructure”;
- (16) in section 8(1) and (4), by striking “building” both places it appears and inserting “building or infrastructure”;
- (17) in section 9, by striking “the United States Fire Administration and”;
- (18) in section 9(2)(C), by striking “building” and inserting “building or infrastructure”;
- (19) in section 10(3), by striking “building” and inserting “building and infrastructure”;
- (20) in section 11(a), by striking “the United States Fire Administration and”; and
- (21) by striking section 12.

TITLE V—FIRE RESEARCH PROGRAM

SEC. 501. FIRE RESEARCH PROGRAM.

Section 16(a)(1) of the National Institute of Standards and Technology Act (15 U.S.C. 278f(a)(1)) is amended—

- (1) in subparagraph (D), by inserting “fires at the wildland-urban interface,” after “but not limited to.”; and
- (2) in subparagraph (E), by inserting “fires at the wildland-urban interface,” after “types of fires, including”.

II. PURPOSE OF THE BILL

The purpose of this bill is to reauthorize the National Earthquake Hazards Reduction Program (NEHRP) and the National Windstorm Impact Reduction Program (NWIRP). In addition, this bill strengthens the National Construction Safety Team Act (NCSTA) by giving the National Institute of Standards and Technology (NIST) more flexibility in implementing the Act.

III. BACKGROUND AND NEED FOR THE LEGISLATION

The United States faces serious threats to public safety and property from natural disasters. Major California earthquakes in 1989

and 1994, Loma Prieta and Northridge respectively, killed over 100 people, injured thousands, and cost the country nearly \$30 billion from property losses and economic disruption. Hurricanes Katrina and Rita most recently demonstrated that severe weather can cause death, injury, and billions of dollars in damage. Developing and implementing measures to reduce the toll of earthquakes, severe weather, wildfires, and other natural disasters is critical as more Americans move to hazard-prone regions of the country. H.R. 3820 reauthorizes and amends programs to improve knowledge of the physical processes of natural hazards and their effects, develop methods to prepare for and mitigate the impacts of natural hazards on the built environment and communities, and to facilitate the implementation of mitigation measures to stem the mounting losses from these disasters.

The National Earthquake Hazards Reduction Program (NEHRP)

Since the creation of NEHRP in 1977, the program has been a key contributor to the development of earthquake knowledge, seismic building codes, and increased awareness of the threat of earthquakes among public officials and the general public. The NEHRP legislation directs four federal agencies—NIST, the National Science Foundation (NSF), the United States Geological Survey (USGS), and the Federal Emergency Management Agency (FEMA)—to coordinate efforts according to the agencies' expertise. The NSF funds basic research to study earthquakes and earthquake engineering; NIST and FEMA support and facilitate the development and implementation of safer earthquake building practices; and the USGS, in addition to supporting research to improve the understanding of earthquakes, also provides critical seismic monitoring through the Advanced National Seismic System (ANSS) and the Global Seismographic Network (GSN). In addition to its role in building research and development, NIST is also the lead agency for NEHRP, responsible for ensuring coordination, including a coordinated budget and strategic plan.

The National Windstorm Impact Reduction Program (NWIRP)

Congress created NWIRP in 2004, directing NIST, NSF, FEMA, and the National Oceanic and Atmospheric Administration (NOAA) to develop a coordinated R&D agenda to mitigate the impact of windstorms. In 2006, the National Science and Technology Council (NSTC) identified a number of priorities to achieve the goals of the program, including research to improve knowledge about windstorms and the characteristics of wind, advancing wind-resilient design and construction methods for buildings and other structures, and spurring mitigation action among the public. However, the program did not receive attention or funding. Consequently, very little federal attention has been paid to R&D to increase the resiliency of the built environment to windstorms.

National Construction Safety Team Act

The National Construction Safety Team Act (NCSTA) (P.L. 107-231), signed into law on October 1, 2002, authorizes NIST to establish teams to investigate building failures. The purpose of the Act is to improve the structural integrity of buildings and evacuation and emergency response procedures by investigating building fail-

ures and recommending specific improvements to building standards, codes, and practices, as well as to evacuation and emergency response procedures. The Act establishes NIST as the lead federal agency for building failures.

Wildfires at the Wildland-Urban Interface

Fires at the wildland-urban interface are a growing problem as more communities develop around forested land. For instance, between 2003 and 2007, such fires destroyed over 8,000 structures in California. NIST is developing tools for reducing community losses in wildland-urban interface fires.

IV. HEARING SUMMARY

The Subcommittee on Technology and Innovation of the Committee on Science and Technology held three hearings related to natural hazards mitigation in the 110th and 111th Congresses.

On June 11, 2009 in the 111th Congress, the Subcommittee on Technology and Innovation held a hearing entitled The Reauthorization of the National Earthquake Hazards Reduction Program: R&D for Resilient Communities. The purpose of the hearing was to review NEHRP since the last reauthorization in 2004, and to discuss areas where more multi-hazard coordination would be beneficial. Five witnesses testified: Dr. Jack Hayes, Director of NEHRP at NIST; Mr. Kenneth Murphy, Director of the Oregon Office of Emergency Management and Immediate Past President of the National Emergency Management Association; Dr. Michael Lindell, Director of the Hazards Reduction and Recovery Center and Professor of Landscape Architecture & Urban Planning at Texas A&M University; Professor Thomas O'Rourke, Thomas R. Briggs Professor of Engineering of the School of Civil & Environmental Engineering at Cornell University; and Dr. Jim Harris, P.E., President of J. R. Harris & Company. Chairman Wu discussed the importance of the program to promoting earthquake mitigation measures, and stated that he would be interested to learn how NEHRP could be improved in the reauthorization. The witnesses discussed NEHRP activities and coordination efforts, challenges to increase earthquake preparedness and the adoption of mitigation measures, and the need to prioritize research on securing infrastructure and other lifelines, as well for retrofitting existing structures for earthquake resilience. They all agreed that program coordination had improved since the last reauthorization. The witnesses also agreed that NEHRP should pursue social science research that will result in adoption of earthquake mitigation measures by the public. They noted that particularly in the social science area, there were opportunities to coordinate R&D across all hazards. Finally, the witnesses noted the important benefits of the USGS' earthquake monitoring efforts and that more funding could be used to hasten the deployment of the ANSS and increase other NEHRP activities.

On July 24, 2008, in the 110th Congress, the Subcommittee on Technology and Innovation held a hearing entitled The National Windstorm Impact Reduction Program: Strengthening Windstorm Hazard Mitigation. The purpose of the hearing was to review the activities of NWIRP and examine the role of R&D in mitigating the impact of windstorms. Four witnesses testified: Dr. Sharon Hays, Associate Director of the White House Office of Science and Tech-

nology Policy (OSTP); Dr. Marc Levitan, Director of the Hurricane Center at Louisiana State University (LSU) and Associate Professor of the LSU Department of Civil and Environmental Engineering; and Ms. Leslie Chapman-Henderson, President and CEO of the Federal Alliance for Safe Home, Inc. (FLASH). Chairman Wu emphasized the devastating effects of windstorms, and expressed frustration at the Administration's lack of attention and funding for NWIRP. Witnesses also expressed concern over the low level of funding for wind-hazard mitigation R&D, particularly in light of the escalating costs of windstorms. They also noted that funding for wind-hazard mitigation R&D was significantly less than the amount spent on research to improve weather forecasting. The non-governmental experts were also concerned that the program's structure was an ineffective approach for interagency coordination and they recommended a structure more like NEHRP with NIST as the lead agency. The witnesses also discussed advances in wind hazard mitigation and methods of transferring the results of research into practice for code developers, builders, and property owners.

On Tuesday, October 2, 2007, in the 110th Congress, the Subcommittee on Technology and Innovation held a hearing entitled, The United States Fire Administration Reauthorization: Addressing the Priorities of the Nation's Fire Service H.R. 4847. The purpose of this hearing was to address the United States Fire Administration (USFA) reauthorization. Six witnesses testified: (1) Chief Gregory B. Cade, the U.S. Fire Administrator, Director of USFA; (2) Dr. Sivaraj Shyam Sunder, Director of the Building and Fire Research Laboratory (BRFL) at the National Institute of Standards and Technology (NIST); (3) Chief Steven P. Westermann, President and Chief Fire Officer, International Association of Fire Chiefs (IAFC); (4) Captain Robert Livingston, Captain in the Salem, Oregon Fire Department and representative to the Oregon State Council of Firefighters of the International Association of Firefighters (IAFF); (5) Chief Gordon Henderson, Deputy Chief of Operations, Rome-Floyd County Fire Department, Georgia, Past President of the Georgia State Firefighters' Association of the National Volunteer Fire Council (NVFC); and (6) Dr. John R. Hall, Assistant Vice President, Fire Analysis and Research, National Fire Protection Association (NFPA). The hearing included discussion by all of the witnesses of the growing problem of fires in the wildland-urban interface. Dr. Sunder described NIST's research on fire and fire safety, including work on mitigating the risks of wildland-urban interface fires.

V. COMMITTEE ACTIONS

On October 15, 2009, Technology and Innovation Subcommittee Chairman David Wu, for himself, Technology and Innovation Ranking Member Adrian Smith, Mr. Alan Grayson, and Mr. Dennis Moore, introduced H.R. 3820, the Natural Hazards Risk Reduction Act of 2009. The bill was referred to the Committee on Science and Technology, and in addition to the Committees on Natural Resources, and Transportation and Infrastructure.

The Committee on Science and Technology met to consider H.R. 3820 on October 21, 2009. The Committee considered the following amendments:

1. Mr. Wu and Mr. Smith (NE) offered a manager's amendment which made minor and technical changes. The amendment: changed the NSF social science authorization language in Titles I and II to give NSF more flexibility; and, under Title II, clarified that NOAA's development of hazard assessment models and tools should be done in cooperation with both Federal agencies and State and local governments, and that NOAA's responsibility under this program will be the development of wind-speed maps, but not their maintenance. The amendment was agreed to by voice vote.

2. Mr. Grayson offered an amendment to include provisions in Title II authorizing NOAA to study storm surge events and develop storm surge models. The amendment was agreed to by voice vote.

Representative Tonko moved that the Committee favorably report H.R. 3820, as amended, to the House. The motion was agreed to by voice vote.

VI. SUMMARY OF MAJOR PROVISIONS OF THE BILL

Title I of H.R. 3820 reauthorizes the National Earthquake Hazards Reduction Program (NEHRP), the purpose of which is to mitigate earthquake hazards through research, development, technology transfer, and outreach activities. Title I directs NIST to be the lead agency, responsible for ensuring a coordinated budget, strategic plan, and program report. It also directs: the NIST to perform research and development to improve earthquake building codes and practices; the FEMA to facilitate the adoption of earthquake mitigation measures, through code development and outreach; the USGS to study earthquake hazards and phenomena and to deploy and operate seismic monitoring systems; and the NSF to study earthquakes, earthquake engineering, and the social science aspect of preparing and recovering from earthquakes. Title I of H.R. 3820 authorizes a total of \$805,656,000 for the NEHRP agencies (NIST, FEMA, USGS, and NSF) for fiscal years 2010 through 2014.

Title II of H.R. 3820 reauthorizes the National Windstorm Impact Reduction Program (NWIRP), the purpose of which is to mitigate the impact of windstorms through research, development, and outreach activities. Title II directs NIST to be the lead agency for the program, responsible for ensuring a coordinated budget, strategic plan, and program report. It also directs: the NIST to perform research and development to improve wind building codes and practices; the FEMA to facilitate the adoption of windstorm mitigation measures, through code development and outreach; the NOAA to study and collect data on windstorms, to aid in the development of wind-speed maps for standards, and to engage in outreach and awareness raising about windstorms; and the NSF to study windstorms, windstorm engineering, and the social science aspect of preparing and recovering from windstorms. Title II of H.R. 3820 authorizes a total of \$136,710,300 for the NEHRP agencies (NIST, FEMA, NOAA, and NSF) for fiscal years 2010 through 2014.

Title III of H.R. 3820 establishes an Interagency Coordinating Committee on Natural Hazards Risk Reduction chaired by the Director of the NIST, and including the directors of FEMA, USGS, NOAA, NSF, OMB, and OSTP. Title III directs the Committee to oversee the planning and coordination of NEHRP and NWIRP, including coordinated budgets and strategic plans for both programs.

Is also requires the Director of NIST to establish advisory committees for both programs, composed of non-federal employee experts. Title III also directs the Subcommittee on Disaster Reduction of the Committee on Environment and Natural Resources of the National Science and Technology Council to issue a report to Congress identifying current federal R&D in natural disaster mitigation and areas where such research may be better coordinated.

Title IV of H.R. 3820 amends the National Construction Safety Team Act (P.L. 107-231), by authorizing NIST to include infrastructure within the Act, and by allowing the Director of NIST to decide whether to deploy a construction safety team 72 hours after the failure of a structure.

Title V of H.R. 3820 amends the activities of the NIST Building and Fire Research Lab to include research relating to protecting homes and communities from fires at the wildland-urban interface.

VII. SECTION-BY-SECTION ANALYSIS

Sec. 1. Short title

The Natural Hazards Risk Reduction Act of 2009

Sec. 2. Findings

Describes the findings of this Act.

TITLE I. EARTHQUAKES

Sec. 101. Short title

National Earthquake Hazards Reduction Program Reauthorization Act of 2009

Sec. 102. Findings

Repeals section 2 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701), which were the original “Findings”.

Sec. 103. Definitions

Removes the definitions of the “Interagency Coordination Committee” and the “Advisory Committee” from section 4 of the National Earthquake Hazards Reduction Act of 1977.

Sec. 104. National Earthquake Hazards Reduction Program

Defines the National Earthquake Hazards Reduction Program’s (NEHRP) activities; identifies the four agencies that make up NEHRP: the National Institute of Standards and Technology (NIST), the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS), and the National Science Foundation (NSF); defines NIST as the lead agency; and assigns responsibilities to the different agencies.

Program activities include: research and development to reduce the risks of earthquakes to the built environment; research to improve the understanding of earthquakes and their impact on the built environment and society; and facilitation of the adoption of earthquake risk reduction measures through grants, technical assistance, development of building standards and guidelines, outreach to practitioners and community members, and other means.

In addition to lead agency responsibilities, NIST shall also support research and development to improve codes, standards, and practices for new and existing buildings and lifelines. Such activities also include the development of tools and technical resources to help practitioners use new knowledge to mitigate earthquakes.

FEMA activities include: facilitating the development and adoption of codes, standards and practices for new and existing structures and lifelines; the development of tools and methods to predict earthquake damage; and support a public earthquake education and public awareness program. FEMA also has the responsibility of a state assistance grant program to assist states in implementing various mitigation activities.

USGS activities shall include research and other means to characterize earthquake hazards, assess earthquake risks, monitor seismic activity, and provide real-time earthquake information. These activities include the continued development of the Advanced National Seismic System and the Global Seismographic Network.

NSF activities shall include the support of basic research to further the understanding of earthquake, earthquake engineering and community preparation and response to earthquakes. Such activities will also include support of the George E. Brown, Jr. Network for Engineering and Earthquake Simulation.

Sec. 105. Post-earthquake investigations program

NEHRP shall be responsible for a post-earthquake investigations program. The lead agency shall be responsible for coordinating such investigations after earthquakes, in order to gather information and data to learn lessons that may be applied to reduce future earthquake losses.

Sec. 106. Authorization of appropriations

Total authorization for FEMA from FY2010 to FY2014:
\$54,354,000

Total authorization for USGS, including the Advanced National Seismic Research and Monitoring System from FY2010 to FY2014:
\$371,640,000

Total authorization for NSF from FY2010 to FY2014:
\$286,275,000

Total authorization for NIST from FY2010 to FY2014:
\$39,214,000

TITLE II. WIND

Sec. 201. Short title

The National Windstorm Impact Reduction Act Reauthorization of 2009

Sec. 202. Purpose

The purpose of the program is to support research, development, and technology transfer activities that will lead to a reduction in the loss of life and property from windstorms.

Sec. 203. Definitions

Amends the Act to define "Director" as the Director of the National Institute of Standards and Technology.

Sec. 204. National Windstorm Impact Reduction Program

Defines the National Windstorm Impact Reduction Program's (NWIRP) activities; identifies the four agencies that make up NWIRP: the National Institute of Standards and Technology (NIST), the Federal Emergency Management Agency (FEMA), the National Oceanic and Atmospheric Administration (NOAA), and the National Science Foundation (NSF); defines NIST as the lead agency; and assigns responsibilities to the different agencies.

Program activities include: research and development on methods and technologies to reduce the risk of windstorms to the built environment; research to improve the understanding of windstorms and their impacts on the built environment and communities; and the facilitation of the adoption of windstorm risk reduction measures, through development of codes and standards, outreach, and other means.

In addition to lead agency responsibilities, NIST activities shall also include research and development to: improve codes, standards, and design guidance for the construction and retrofit of new and existing structures; support the development of wind measurement tools; and the development of methods to collect data after severe wind events.

FEMA activities include the development of: windstorm impact assessment tools; windstorm impact mitigation techniques; data collection and analysis after windstorm events; and outreach to facilitate mitigation measures in communities and among building practitioners.

NOAA activities include the support of: atmospheric science research and data collection to better understand windstorms and their impacts.

NSF activities include: research to improve the understanding of windstorms, their impact on the built environment, and on households, businesses, and communities.

Sec. 205. Authorization of appropriations

Total authorization for FEMA from FY2010 to FY2014:
\$51,403,100

Total authorization for NSF from FY2010 to FY2014:
\$51,403,100

Total authorization for NIST from FY2010 to FY2014:
\$21,873,600

Total authorization for NOAA from FY2010 to FY2014:
\$12,030,500

TITLE III. INTERAGENCY COORDINATING COMMITTEE ON
NATURAL HAZARDS RISK REDUCTION

Sec. 301. Interagency Coordinating Committee on Natural Hazards Risk Reduction

Establishes an Interagency Committee (ICC) on Natural Hazards Risk Reduction, chaired by the Director of the National Institute of Standards and Technology (NIST) and comprised also of the Directors of the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF), the Office of Science and Technology Policy (OSTP), the

Office of Management and Budget (OMB), and the head of any other Federal agency the Committee considers appropriate. Gives the ICC the responsibility of developing strategic plans, progress reports, and coordinated budgets for both the National Earthquake Hazards Reduction Program (NEHRP) and the National Windstorm Impact Reduction Program (NWIRP).

Establishes Advisory Committees for NEHRP and NWIRP of relevant non-Federal employee experts to offer guidance and recommendations on program activities.

Requires the Subcommittee on Disaster Reduction, of the Committee on Environment and Natural Resources of the National Science and Technology Council, to submit a report to Congress identifying the current Federal research, development, and technology transfer activities that address mitigation for all types of natural hazards, and opportunities to create synergies among the various research activities.

TITLE IV. NATIONAL CONSTRUCTION SAFETY TEAM ACT AMENDMENTS

Sec. 401. National Construction Safety Team Act Amendments

Amends the National Construction Safety Team Act (P.L. 107–231) to: include infrastructure, as well as buildings and to give the Director of the National Institute of Standards and Technology (NIST) 72 hours to decide to deploy a Construction Safety Team.

TITLE V. FIRE RESEARCH PROGRAM

Sec. 501. Fire Research Program

To add to the National Institute of Standards and Technology's existing fire research authority, research on "fires at the wildland-urban interface."

VIII. COMMITTEE VIEWS

NEHRP

NEHRP is an important resource for improving public safety. The research and development efforts that have led to improved understanding of the location and effects of earthquake hazards, as well as how to build and design structures to withstand earthquakes should continue. Because in many earthquake-prone communities, the existing built environment would not withstand a strong earthquake, developing tools and methods to retrofit existing structures should be a high priority for NEHRP. In addition, NEHRP should also support research and development to improve the resiliency of infrastructure and other lifelines (like emergency and medical services) since functioning infrastructure is crucial to the recovery of a community after an earthquake. Finally, the most important step in protecting communities from earthquake hazards is the adoption of earthquake mitigation measures. NEHRP should facilitate and promote the adoption of these measures, through such activities as creating tools to help practitioners use the latest earthquake engineering knowledge and engaging the public about earthquake hazards. Social science research is important in understanding how communities and individuals perceive their risk and in effectively convincing people to adopt mitigation measures.

NEHRP should therefore include social science research and knowledge in its efforts.

NWIRP

Because of the lack of implementation and coordination for NWIRP since the creation of the program in 2004, NIST should lead efforts to ensure coordinated efforts for wind-hazard mitigation research, development, and technology transfer. This program should develop better wind standards and helping to facilitate the use of existing knowledge. As with the earthquake program, developing measures to cost-effectively retrofit existing structures is of high importance, as is developing methods to mitigate the impacts of windstorms on infrastructure and lifelines. Since social science is an important tool for understanding how communities prepare and react to disasters, and how to effectively convince people to adopt mitigation measures, it should also be an important component of this program.

Coordination

The Interagency Coordinating Committee for NEHRP has been effective and should continue to ensure the agencies' activities are well coordinated and inline with the strategic plan. The members of this committee should give the same attention and consideration the NWIRP as well. Federal agencies should take advantage of opportunities for more coordination of R&D across different natural hazards. An important initial step is to specific types of R&D efforts, such as social science and data collection, where coordination and collaboration across different natural hazards is possible. The Committee believes that the National Science and Technology Council's Subcommittee on Disaster Reduction can build on its previous efforts in the Grand Challenges for Disaster Reduction and identify areas where current federal natural hazards R&D efforts can be better coordinated.

NCSTA

The National Construction Safety Team Act (NCSTA) is an important tool for improving public safety. The Director of NIST should, whenever appropriate, use the authorities in this Act to make recommendations to improve the safety of buildings and structures. The changes made to the NCSTA by H.R. 3820 give the Director of NIST greater flexibility in implementing the Act. The Director will now have 72 hours after a building failure (or failures) to decide whether to pursue an NCSTA investigation, rather than only 48 hours to actually send a team. H.R. 3820 also gives greater flexibility by including "infrastructure" failures under the Act. The Committee does not find that there is any language within NIST's current authorities that prevents the agency from studying and gathering information about buildings that survive disasters, or from issuing building safety recommendations based on those findings.

IX. COST ESTIMATE

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted to the Committee on

Science and Technology prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 3820 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 3820 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.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

H.R. 3820—Natural Hazards Risk Reduction Act of 2009

Summary: H.R. 3820 would reauthorize federal programs aimed at developing methods to reduce damages caused by earthquakes and windstorms. The bill also would reauthorize several committees that advise federal agencies on implementing those programs. Assuming appropriation of the authorized and necessary amounts, CBO estimates that implementing the legislation would cost \$747 million over the 2010–2014 period and \$125 million after 2014. Enacting H.R. 3820 would not affect direct spending or revenues.

H.R. 3820 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or local governments.

Estimated cost to the Federal Government: The estimated budgetary impact of H.R. 3820 is shown in the following table. 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).

	By fiscal year, in millions of dollars—					
	2010	2011	2012	2013	2014	2010–2014
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Title I: National Earthquake Hazards Reduction Program:						
Authorization Level ^a	80	157	161	165	171	734
Estimated Outlays	28	125	148	161	168	630
Title II: National Windstorm Impact Reduction Program:						
Authorization Level	26	26	26	29	30	137
Estimated Outlays	13	21	25	28	29	116
Title III: Advisory Committees:						
Estimated Authorization Level	*	*	*	*	*	1
Estimated Outlays	*	*	*	*	*	1
Total Changes:						
Authorization Level	106	183	187	194	201	872
Estimated Outlays	41	146	173	189	197	747

Note: * = less than \$500,000. Amounts may not sum to totals due to rounding.

^aH.R. 3820 would authorize the appropriation of \$151 million for the Earthquake Hazards Reduction Program in 2010. A total of \$71 million has been appropriated to the Federal Emergency Management Agency and the U.S. Geological Survey for 2010. Other agencies involved with this program have not yet received a full-year appropriation for 2010.

Basis of estimate: For this estimate, CBO assumes that H.R. 3820 will be enacted early in calendar year 2010 and that the authorized and necessary amounts will be appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for similar activities.

Over the 2010–2014 period, title I would authorize appropriations totaling \$371 million for the United States Geological Survey, \$340 million for the National Science Foundation (NSF), \$55 mil-

lion for the Federal Emergency Management Agency (FEMA), and \$39 million for the National Institute of Standards and Technology (NIST) to carry out the National Earthquake Hazards Reduction Program. (Over the 2005–2009 period, those agencies spent \$616 million for the program.) Assuming appropriation of the authorized amounts, CBO estimates that implementing the provisions of title I would cost \$630 million over the 2010–2014 period and \$104 million after 2014. That estimate excludes \$71 million that has already been appropriated for the National Earthquake Hazards Reduction Program in 2010.

Over the 2010–2014 period, title II would authorize appropriations totaling \$52 million for NSF, \$52 million for FEMA, \$22 million for NIST, and \$11 million for the National Oceanic and Atmospheric Administration to carry out the National Windstorm Impact Reduction Program. (Those agencies spent about \$88 million on related activities over the 2005–2009 period.) Assuming appropriation of the authorized amounts, CBO estimates that implementing the provisions of title II would cost \$116 million over the 2010–2014 period and \$21 million after 2014.

Title III would reauthorize several committees that advise federal agencies on implementing the National Earthquake Hazards Reduction Program and the National Windstorm Impact Reduction Program. Based on information from NIST regarding administrative costs for similar committees, CBO estimates that the agency would spend about \$150,000 a year to maintain those committees. In total, CBO estimates that implementing the provisions of title III would cost \$750,000 over the 2010–2014 period, assuming appropriation of the necessary amounts.

Intergovernmental and private-sector impact: H.R. 3820 contains no intergovernmental or private-sector mandates as defined in UMR and would impose no costs on state, local, or local governments.

Estimate prepared by: Federal Costs: Jeff LaFave; Impact on State, Local, and Tribal Governments: Melissa Merrell; Impact on the Private Sector: Sam Wice.

Estimate approved by: Theresa Gullo, Deputy Assistant Director for Budget Analysis.

XI. COMPLIANCE WITH PUBLIC LAW 104–4

H.R. 3820 contains no unfunded mandates.

XII. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

The oversight findings and recommendations of the Committee on Science and Technology are reflected in the body of this report.

XIII. STATEMENT ON GENERAL PERFORMANCE GOALS AND OBJECTIVES

Pursuant to clause 3(c) of House Rule XIII, the goal of H.R. 3820 is to reauthorize the National Earthquake Hazards Reduction Program (NEHRP) and the National Windstorm Impact Reduction Program (NWIRP).

XIV. CONSTITUTIONAL AUTHORITY STATEMENT

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 3820.

XV. FEDERAL ADVISORY COMMITTEE STATEMENT

The functions of the advisory committees authorized in H.R. 3820 are not currently being nor could they be performed by one or more agencies or by enlarging the mandate of another existing advisory committee.

XVI. CONGRESSIONAL ACCOUNTABILITY ACT

The Committee finds that H.R. 3820 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).

XVII. EARMARK IDENTIFICATION

H.R. 3820 does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of Rule XXI.

XVIII. STATEMENT ON PREEMPTION OF STATE, LOCAL, OR TRIBAL LAW

This bill is not intended to preempt any state, local, or tribal law.

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

In compliance with clause 3(e) 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. 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) The geological study of active faults and features can reveal how recently and how frequently major earthquakes have occurred on those faults and how much risk they pose. Such long-term seismic risk assessments are needed in virtually every aspect of earthquake hazards management, whether emergency planning, public regulation, detailed building design, insurance rating, or investment decision.

【(6) The vulnerability of buildings, lifelines, public works, and industrial and emergency facilities can be reduced through proper earthquake resistant design and construction practices. The economy and efficacy of such procedures can be substantially increased through research and development.

【(7) Programs and practices of departments and agencies of the United States are important to the communities they serve; some functions, such as emergency communications and national defense, and lifelines, such as dams, bridges, and public works, must remain in service during and after an earthquake. Federally owned, operated, and influenced structures and lifelines should serve as models for how to reduce and minimize hazards to the community.

【(8) 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.

【(9) Reduction of loss, destruction, and disruption from earthquakes will depend on the actions of individuals, and organizations 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.

【(10) 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.

[(11) An effective Federal program in earthquake hazard 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. 4. DEFINITIONS.

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

(1) * * *

* * * * *

[(8) The term "Interagency Coordinating Committee" means the Interagency Coordinating Committee on Earthquake Hazards Reduction established under section 5(a).

[(9) The term "Advisory Committee" means the Advisory Committee established under section 5(a)(5).]

* * * * *

SEC. 5. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

(a) ESTABLISHMENT.—

(1) * * *

[(2) PROGRAM ACTIVITIES.—The activities of the Program shall be designed to—

[(A) develop effective measures for earthquake hazards reduction;

[(B) promote the adoption of earthquake hazards reduction measures by Federal, State, and local governments, national standards and model code organizations, architects and engineers, building owners, and others with a role in planning and constructing buildings, structures, and lifelines through—

[(i) grants, contracts, cooperative agreements, and technical assistance;

[(ii) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines;

[(iii) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction; and

[(C) improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines, through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decisions sciences; and

[(D) develop, operate, and maintain an Advanced National Seismic Research and Monitoring System established under section 13 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7707), the George E. Brown, Jr. Network for Earthquake Engineering Simulation established under section 14 of that Act (42 U.S.C. 7708), and the Global Seismographic Network.

[(3) INTERAGENCY COORDINATING COMMITTEE ON EARTHQUAKE HAZARDS REDUCTION.—

[(A) IN GENERAL.—There is established an Interagency Coordinating Committee on Earthquake Hazards Reduc-

tion chaired by the Director of the National Institute of Standards and Technology (referred to in this subsection as the “Director”).

【(B) MEMBERSHIP.—The committee shall be composed of the directors of—

- 【(i) the Federal Emergency Management Agency;
 - 【(ii) the United States Geological Survey;
 - 【(iii) the National Science Foundation;
 - 【(iv) the Office of Science and Technology Policy;
- and
- 【(v) the Office of Management and Budget.

【(C) MEETINGS.—The Committee shall meet not less than 3 times a year at the call of the Director.

【(D) PURPOSE AND DUTIES.—The Interagency Coordinating Committee shall oversee the planning, management, and coordination of the Program. The Interagency Coordinating Committee shall—

【(i) develop, not later than 6 months after the date of enactment of the National Earthquake Hazards Reduction Program Reauthorization Act of 2004 and update periodically—

【(I) a strategic plan that establishes goals and priorities for the Program activities described under subsection (a)(2); and

【(II) a detailed management plan to implement such strategic plan; and

【(ii) develop a coordinated interagency budget for the Program that will ensure appropriate balance among the Program activities described under subsection (a)(2), and, in accordance with the plans developed under clause (i), submit such budget to the Director of the Office of Management and Budget at the time designated by that office for agencies to submit annual budgets.

【(4) ANNUAL REPORT.—The Interagency Coordinating Committee shall transmit, at the time of the President’s budget request to Congress, an annual report to the Committee on Science and the Committee on Resources of the House of Representatives, and the Committee on Commerce, Science, and Transportation of the Senate. Such report shall include—

【(A) the Program budget for the current fiscal year for each agency that participates in the Program, and for each major goal established for the Program activities under subparagraph (3)(A);

【(B) the proposed Program budget for the next fiscal year for each agency that participates in the Program, and for each major goal established for the Program activities under subparagraph (3)(A);

【(C) a description of the activities and results of the Program during the previous year, including an assessment of the effectiveness of the Program in furthering the goals established in the strategic plan under (3)(A);

【(D) a description of the extent to which the Program has incorporated the recommendations of the Advisory Committee;

[(E) a description of activities, including budgets for the current fiscal year and proposed budgets for the next fiscal year, that are carried out by Program agencies and contribute to the Program, but are not included in the Program; and

[(F) a description of the activities, including budgets for the current fiscal year and proposed budgets for the following fiscal year, related to the grant program carried out under subsection (b)(2)(A)(i).

[(5) ADVISORY COMMITTEE.—

[(A) IN GENERAL.—The Director shall establish an Advisory Committee on Earthquake Hazards Reduction of at least 11 members, none of whom may be an employee (as defined in subparagraphs (A) through (F) of section 7342(a)(1) of title 5, United States Code, including representatives of research and academic institutions, industry standards development organizations, State and local government, and financial communities who are qualified to provide advice on earthquake hazards reduction and represent all related scientific, architectural, and engineering disciplines. The recommendations of the Advisory Committee shall be considered by Federal agencies in implementing the Program.

[(B) ASSESSMENT.—The Advisory Committee shall assess—

[(i) trends and developments in the science and engineering of earthquake hazards reduction;

[(ii) effectiveness of the Program in carrying out the activities under (a)(2);

[(iii) the need to revise the Program; and

[(iv) the management, coordination, implementation, and activities of the Program.

[(C) REPORT.—Not later than 1 year after the date of enactment of the National Earthquake Hazards Reduction Program Reauthorization Act of 2004 and at least once every 2 years thereafter, the Advisory Committee shall report to the Director on its findings of the assessment carried out under subparagraph (B) and its recommendations for ways to improve the Program. In developing recommendations, the Committee shall consider the recommendations of the United States Geological Survey Scientific Earthquake Studies Advisory Committee.

[(D) FEDERAL ADVISORY COMMITTEE ACT APPLICATION.—Section 14 of the Federal Advisory Committee Act (5 App. U.S.C. 14) shall not apply to the Advisory Committee.]

(2) PROGRAM ACTIVITIES.—*The activities of the Program shall be designed to—*

(A) *research and develop effective methods, tools, and technologies to reduce the risk posed by earthquakes to the built environment, especially to lessen the risk to existing structures and lifelines;*

(B) *improve the understanding of earthquakes and their effects on households, businesses, communities, buildings, structures, and lifelines, through interdisciplinary and*

multidisciplinary research that involves engineering, natural sciences, and social sciences; and

(C) facilitate the adoption of earthquake risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning for disasters and planning, constructing, retrofitting, and insuring buildings, structures, and lifelines through—

(i) grants, contracts, cooperative agreements, and technical assistance;

(ii) development of standards, guidelines, voluntary consensus standards, and other design guidance for earthquake hazards risk reduction for buildings, structures, and lifelines;

(iii) outreach and information dissemination to communities on location-specific earthquake hazards and methods to reduce the risks from those hazards; and

(iv) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction.

[(b) RESPONSIBILITIES OF PROGRAM AGENCIES.—

[(1) LEAD AGENCY.—The National Institute of Standards and Technology shall have the primary responsibility for planning and coordinating the Program. In carrying out this paragraph, the Director of the Institute shall—

[(A) ensure that the Program includes the necessary steps to promote the implementation of earthquake hazard reduction measures by Federal, State, and local governments, national standards and model building code organizations, architects and engineers, and others with a role in planning and constructing buildings and lifelines;

[(B) support the development of performance-based seismic engineering tools, and work with appropriate groups to promote the commercial application of such tools, through earthquake-related building codes, standards, and construction practices;

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

[(D) work with the Federal Emergency Management Agency, the National Science Foundation, 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.

[(2) DEPARTMENT OF HOMELAND SECURITY; FEDERAL EMERGENCY MANAGEMENT AGENCY.—

[(A) PROGRAM RESPONSIBILITIES.—The Under Secretary of Homeland Security for Emergency Preparedness and Response (the Director of the Federal Emergency Management Agency)—

[(i) shall work closely with national standards and model building code organizations, in conjunction with the National Institute of Standards and Technology, to promote the implementation of research results;

[(ii) shall promote better building practices within the building design and construction industry including architects, engineers, contractors, builders, and inspectors;

[(iii) shall operate a program of grants and assistance to enable States to develop mitigation, preparedness, and response plans, prepare inventories and conduct seismic safety inspections of critical structures and lifelines, update building and zoning codes and ordinances to enhance seismic safety, increase earthquake awareness and education, and encourage the development of multi-State groups for such purposes;

[(iv) shall support the implementation of a comprehensive earthquake education and public awareness program, including development of materials and their wide dissemination to all appropriate audiences and support public access to locality-specific information that may assist the public in preparing for, mitigating against, responding to and recovering from earthquakes and related disasters;

[(v) shall assist the National Institute of Standards and Technology, other Federal agencies, and private sector groups, in the preparation, maintenance, and wide dissemination of seismic resistant design guidance and related information on building codes, standards, and practices for new and existing buildings, structures, and lifelines, and aid in the development of performance-based design guidelines and methodologies supporting model codes for buildings, structures, and lifelines that are cost effective and affordable;

[(vi) shall develop, coordinate, and execute the National Response Plan when required following an earthquake, and support the development of specific State and local plans for each high risk area to ensure the availability of adequate emergency medical resources, search and rescue personnel and equipment, and emergency broadcast capability;

[(vii) shall develop approaches to combine measures for earthquake hazards reduction with measures for reduction of other natural and technological hazards including performance-based design approaches;

[(viii) shall provide preparedness, response, and mitigation recommendations to communities after an earthquake prediction has been made under paragraph (3)(D); and

[(ix) may enter into cooperative agreements or contracts with States and local jurisdictions and other Federal agencies to establish demonstration projects on earthquake hazard mitigation, to link earthquake research and mitigation efforts with emergency management programs, or to prepare educational materials for national distribution.

[(B) STATE ASSISTANCE PROGRAM CRITERIA.—In order to qualify for assistance under subparagraph (A)(i), a State must—

[(i) demonstrate that the assistance will result in enhanced seismic safety in the State;

[(ii) provide a share of the costs of the activities for which assistance is being given, in accordance with subparagraph (C); and

[(iii) meet such other requirements as the Director of the Agency shall prescribe.

[(C) NON-FEDERAL COST SHARING.—

[(i) In the case of any State which has received, before October 1, 1990, a grant from the Agency for activities under this Act which included a requirement for cost sharing by matching such grant, any grant obtained from the Agency for activities under subparagraph (A)(i) after such date shall not include a requirement for cost sharing in an amount greater than 50 percent of the cost of the project for which the grant is made.

[(ii) In the case of any State which has not received, before October 1, 1990, a grant from the Agency for activities under this Act which included a requirement for cost sharing by matching such grant, any grant obtained from the Agency for activities under subparagraph (A)(i) after such date—

[(I) shall not include a requirement for cost sharing for the first fiscal year of such a grant;

[(II) shall not include a requirement for cost sharing in an amount greater than 25 percent of the cost of the project for which the grant is made for the second fiscal year of such grant, and any cost sharing requirement may be satisfied through in-kind contributions;

[(III) shall not include a requirement for cost sharing in an amount greater than 35 percent of the cost of the project for which the grant is made for the third fiscal year of such grant, and any cost sharing requirement may be satisfied through in-kind contributions; and

[(IV) shall not include a requirement for cost sharing in an amount greater than 50 percent of the cost of the project for which the grant is made for the fourth and subsequent fiscal years of such grant.

[(3) UNITED STATES GEOLOGICAL SURVEY.—The United States Geological Survey shall conduct research and other activities 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) conduct a systematic assessment of the seismic risks in each region of the Nation prone to earthquakes, including, where appropriate, the establishment and operation of intensive monitoring projects on hazardous faults, seismic microzonation studies in urban and other developed areas where earthquake risk is determined to be significant, and engineering seismology studies;

[(B) work with officials of State and local governments to ensure that they are knowledgeable about the specific seismic risks in their areas;

【(C) develop standard procedures, in consultation with the Director of the Federal Emergency Management Agency and the Director of the National Institute of Standards and Technology, for issuing earthquake predictions, including aftershock advisories;

【(D) issue when necessary, and notify the Director of the Federal Emergency Management Agency and the Director of the National Institute of Standards and Technology of, an earthquake prediction or other earthquake advisory, which may be evaluated by the National Earthquake Prediction Evaluation Council, which shall be exempt from the requirements of section 10(a)(2) of the Federal Advisory Committee Act when meeting for such purposes;

【(E) operate, using the National Earthquake Information Center, a forum 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;

【(F) operate a National Seismic System;

【(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.

【(I) work with other Program agencies to coordinate Program activities with similar earthquake hazards reduction efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries; and

【(J) maintain suitable seismic hazard maps in support of building codes for structures and lifelines, including additional maps needed for performance-based design approaches.

【(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) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and development of intellectual property so research results can be used by appropriate organizations to mitigate earthquake damage;

[(B) in addition to supporting individual investigators, support university research consortia and centers for research in geosciences and in earthquake engineering;

[(C) work closely with the United States Geological Survey to identify geographic regions of national concern that should be the focus of targeted solicitations for earthquake-related research proposals;

[(D) support research that improves the safety and performance of buildings, structures, and lifeline systems using large-scale experimental and computational facilities of the George E. Brown Jr. Network for Earthquake Engineering Simulation and other institutions engaged in research and the implementation of the National Earthquake Hazards Reduction Program;

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

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

[(G) include to the maximum extent practicable diverse institutions, including Historically Black Colleges and Universities and those serving large proportions of Hispanics, Native Americans, Asian-Pacific Americans, and other underrepresented populations; and

[(H) 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.— In addition to the lead agency responsibilities described under paragraph (1), 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;

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

【(D) support the development and commercial application of cost effective and affordable performance-based seismic engineering by providing technical support for seismic engineering practices and related building code, standards, and practices development; and

【(E) 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.】

(b) *RESPONSIBILITIES OF PROGRAM AGENCIES.—*

(1) *LEAD AGENCY.—The National Institute of Standards and Technology (in this section referred to as the “Institute”) shall be responsible for planning and coordinating the Program. In carrying out this paragraph, the Director of the Institute shall—*

(A) *ensure that the Program includes the necessary components to promote the implementation of earthquake hazards risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in preparing for disasters, or the planning, constructing, retrofitting, and insuring of buildings, structures, and lifelines;*

(B) *support the development of performance-based seismic engineering tools, and work with the appropriate groups to promote the commercial application of such tools, through earthquake-related building codes, standards, and construction practices;*

(C) *ensure the use of social science research and findings in informing research and technology development priorities, communicating earthquake risks to the public, developing earthquake risk mitigation strategies, and preparing for earthquake disasters;*

(D) *coordinate all Federal post-earthquake investigations; and*

(E) *when warranted by research or investigative findings, issue recommendations for changes in model codes to the relevant code development organizations, and report back to Congress on whether such recommendations were adopted.*

(2) *NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—In addition to the lead agency responsibilities described under paragraph (1), the Institute shall be responsible for carrying out research and development to improve building codes and standards and practices for buildings, structures, and lifelines. In*

carrying out this paragraph, the Director of the Institute shall—

(A) work, in conjunction with other appropriate Federal agencies, to support the development of improved seismic standards and model codes;

(B) in coordination with other appropriate Federal agencies, work closely with standards and model code development organizations, professional societies, and practicing engineers, architects, and others involved in the construction of buildings, structures, and lifelines, to promote better building practices, including by—

(i) developing technical resources for practitioners on new knowledge and standards of practice; and

(ii) developing methods and tools to facilitate the incorporation of earthquake engineering principles into design and construction practices;

(C) develop tools, technologies, methods, and practitioner guidance to feasibly and cost-effectively retrofit existing buildings and structures to increase their earthquake resiliency; and

(D) work closely with national standards organizations, and other interested parties, to develop seismic safety standards and practices for new and existing lifelines.

(3) FEDERAL EMERGENCY MANAGEMENT AGENCY.—

(A) IN GENERAL.—The Federal Emergency Management Agency (in this paragraph referred to as the “Agency”) shall be responsible for facilitating the development and adoption of standards, model building codes, and better seismic building practices, developing tools to assess earthquake hazards, promoting the adoption of hazard mitigation measures, and carrying out a program of direct assistance to States and localities to mitigate earthquake risks to buildings, structures, lifelines, and communities.

(B) DIRECTOR’S DUTIES.—The Director of the Agency shall—

(i) work closely with other relevant Federal agencies, standards and model building code development organizations, architects, engineers, and other professionals, to facilitate the development and adoption of standards, model codes, and design and construction practices to increase the earthquake resiliency of new and existing buildings, structures, and lifelines in the—

(I) preparation, maintenance, and wide dissemination of design guidance, model building codes and standards, and practices to increase the earthquake resiliency of new and existing buildings, structures, and lifelines;

(II) development of performance-based design guidelines and methodologies supporting model codes for buildings, structures, and lifelines; and

(III) development of methods and tools to facilitate the incorporation of earthquake engineering principles into design and construction practices;

(ii) develop tools, technologies, and methods to assist local planners, and others, to model and predict the potential impact of earthquake damage in seismically hazardous areas; and

(iii) support the implementation of a comprehensive earthquake education and public awareness program, including the development of materials and their wide dissemination to all appropriate audiences, and support public access to locality-specific information that may assist the public in preparing for, mitigating against, responding to, and recovering from earthquakes and related disasters.

(C) STATE ASSISTANCE GRANT PROGRAM.—*The Director of the Agency shall operate a program of grants and assistance to enable States to develop mitigation, preparedness, and response plans, compare inventories and conduct seismic safety inspections of critical structures and lifelines, update building and zoning codes and ordinances to enhance seismic safety, increase earthquake awareness and education, and encourage the development of multistate groups for such purposes. In order to qualify for assistance under this subparagraph, a State must—*

(i) demonstrate that the assistance will result in enhanced seismic safety in the State;

(ii) provide 50 percent of the costs of the activities for which assistance is being given, except that the Director may lower or waive the cost-share requirement for these activities in exceptional cases of economic hardship; and

(iii) meet such other requirements as the Director of the Agency shall prescribe.

(4) UNITED STATES GEOLOGICAL SURVEY.—*The United States Geological Survey (in this paragraph referred to as the “Survey”) shall conduct research and other activities necessary to characterize and identify earthquake hazards, assess earthquake risks, monitor seismic activity, and provide real-time earthquake information. In carrying out this paragraph, the Director of the Survey shall—*

(A) conduct a systematic assessment of the seismic risks in each region of the Nation prone to earthquakes, including, where appropriate, the establishment and operation of intensive monitoring projects on hazardous faults, detailed seismic hazard and risk studies in urban and other developed areas where earthquake risk is determined to be significant, and engineering seismology studies;

(B) work with officials of State and local governments to ensure that they are knowledgeable about the specific seismic risks in their areas;

(C) develop standard procedures, in consultation with the Director of the Federal Emergency Management Agency, for issuing earthquake alerts, including aftershock advisories;

(D) issue when justified, and notify the Director of the Federal Emergency Management Agency of, an earthquake prediction or other earthquake advisory, which may be

evaluated by the National Earthquake Prediction Evaluation Council;

(E) operate, as integral parts of the Advanced National Seismic Research and Monitoring System, a National Earthquake Information Center and a national seismic network, together providing timely and accurate information on earthquakes world-wide;

(F) support the operation of regional seismic networks in areas of higher seismic risk;

(G) develop and support seismic instrumentation of buildings and other structures to obtain data on their response to earthquakes for use in engineering studies and assessment of damage;

(H) monitor and assess Earth surface deformation as it pertains to the evaluation of earthquake hazards and impacts;

(I) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, earthquake risk reduction efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries;

(J) maintain suitable seismic hazard maps in support of building codes for structures and lifelines, including additional maps needed for performance-based design approaches;

(K) conduct a competitive, peer-reviewed process which awards grants and cooperative agreements to complement and extend related internal Survey research and monitoring activities; and

(L) operate, in cooperation with the National Science Foundation, a Global Seismographic Network for detection of earthquakes around the world and research into fundamental earth processes.

(5) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding basic research that furthers the understanding of earthquakes, earthquake engineering, and community preparation and response to earthquakes. In carrying out this paragraph, the Director of the National Science Foundation shall—

(A) support multidisciplinary and interdisciplinary research that will improve the resiliency of communities to earthquakes, including—

(i) research that improves the safety and performance of buildings, structures, and lifelines, including the use of the large-scale experimental and computational facilities of the George E. Brown, Jr. Network for Engineering Earthquake Simulation;

(ii) research to support more effective earthquake mitigation and response measures, such as developing better knowledge of the specific types of vulnerabilities faced by segments of the community vulnerable to earthquakes, addressing the barriers they face in adopting mitigation and preparation measures, and developing methods to better communicate the risks of earthquakes and to promote mitigation; and

(iii) research on the response of communities, households, businesses, and emergency responders to earthquakes;

(B) support research to understand earthquake processes, earthquake patterns, and earthquake frequencies;

(C) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and development of intellectual property so research results can be used by appropriate organizations to mitigate earthquake damage;

(D) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, earthquake risk reduction research efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries; and

(E) include to the maximum extent practicable diverse institutions, including Historically Black Colleges and Universities, Hispanic-serving institutions, Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions.

(c) BUDGET COORDINATION.—

(1) GUIDANCE.—The Interagency Coordinating Committee on Natural Hazards Risk Reduction established under section 301 of the Natural Hazards Risk Reduction Act of 2009 shall each year provide guidance to the other Program agencies concerning the preparation of requests for appropriations for activities related to the Program, and shall prepare, in conjunction with the other Program agencies, an annual Program budget to be submitted to the Office of Management and Budget.

* * * * *

SEC. 11. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.

【There is established within the United States Geological Survey a post-earthquake investigations program, the purpose of which is to investigate major earthquakes, so as to learn lessons which can be applied to reduce the loss of lives and property in future earthquakes. The United States Geological Survey, in consultation with each Program agency, shall organize investigations to study the implications of the earthquake in the areas of responsibility of each Program agency. The investigations shall begin as rapidly as possible and may be conducted by grantees and contractors. The Program agencies shall ensure that the results of investigations are disseminated widely. The Director of the Survey is authorized to utilize earthquake expertise from the Agency, the National Science Foundation, the National Institute of Standards and Technology, other Federal agencies, and private contractors, on a reimbursable basis, in the conduct of such earthquake investigations.】 *The Program shall include a post-earthquake investigations program, the purpose of which is to investigate major earthquakes so as to learn lessons which can be applied to reduce the loss of lives and property in future earthquakes. The lead Program agency, in consultation with each Program agency, shall organize investigations to study the implications of the earthquakes in the areas of responsibility of each Program agency. The investigations shall begin as rapidly as*

possible and may be conducted by grantees and contractors. The Program agencies shall ensure that the results of the investigations are disseminated widely. At a minimum, investigations under this section shall include—

(1) * * *

* * * * *

SEC. 12. AUTHORIZATION OF APPROPRIATIONS.

(a)(1) * * *

* * * * *

(9) *There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this Act—*

(A) \$10,238,000 for fiscal year 2010;

(B) \$10,545,000 for fiscal year 2011;

(C) \$10,861,000 for fiscal year 2012;

(D) \$11,187,000 for fiscal year 2013; and

(E) \$11,523,000 for fiscal year 2014.

(b) GEOLOGICAL SURVEY.—(1) * * *

* * * * *

(3) *There are authorized to be appropriated to the United States Geological Survey for carrying out this Act, including the Advanced National Seismic Research and Monitoring System—*

(A) \$70,000,000 for fiscal year 2010;

(B) \$72,100,000 for fiscal year 2011;

(C) \$74,263,000 for fiscal year 2012;

(D) \$76,491,000 for fiscal year 2013; and

(E) \$78,786,000 for fiscal year 2014.

(c) NATIONAL SCIENCE FOUNDATION.—(1) * * *

* * * * *

(3) *There are authorized to be appropriated to the National Science Foundation for carrying out this Act—*

(A) \$64,125,000 for fiscal year 2010;

(B) \$66,049,000 for fiscal year 2011;

(C) \$68,030,000 for fiscal year 2012;

(D) \$70,071,000 for fiscal year 2013; and

(E) \$72,173,000 for fiscal year 2014.

(d) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—

(1) * * *

* * * * *

(3) *There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this Act—*

(A) \$7,000,000 for fiscal year 2010;

(B) \$7,700,000 for fiscal year 2011;

(C) \$7,931,000 for fiscal year 2012;

(D) \$8,169,000 for fiscal year 2013; and

(E) \$8,414,000 for fiscal year 2014.

* * * * *

SEC. 14. NETWORK FOR EARTHQUAKE ENGINEERING SIMULATION.

(a) * * *

[(b) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts appropriated under section 12(c), there are authorized to

be appropriated to the National Science Foundation for the George E. Brown, Jr. Network for Earthquake Engineering Simulation—

- 【(1) \$28,200,000 for fiscal year 2001;
- 【(2) \$24,400,000 for fiscal year 2002;
- 【(3) \$4,500,000 for fiscal year 2003;
- 【(4) \$17,000,000 for fiscal year 2004;
- 【(5) \$20,000,000 for fiscal year 2005, all of which shall be available for operations and maintenance;
- 【(6) \$20,400,000 for fiscal year 2006, all of which shall be available for operations and maintenance;
- 【(7) \$20,870,000 for fiscal year 2007, all of which shall be available for operations and maintenance;
- 【(8) \$21,390,000 for fiscal year 2008, all of which shall be available for operations and maintenance; and
- 【(9) \$21,930,000 for fiscal year 2009, all of which shall be available for operations and maintenance.】

**NATIONAL WINDSTORM IMPACT REDUCTION ACT OF
2004**

* * * * *

**TITLE II—WINDSTORM IMPACT
REDUCTION**

SEC. 201. SHORT TITLE.

This Act may be cited as the “National Windstorm Impact Reduction Act of 2004”.

【SEC. 202. FINDINGS.

【The Congress finds the following:

【(1) Hurricanes, tropical storms, tornadoes, and thunderstorms can cause significant loss of life, injury, destruction of property, and economic and social disruption. All States and regions are vulnerable to these hazards.

【(2) The United States currently sustains several billion dollars in economic damages each year due to these windstorms. In recent decades, rapid development and population growth in high-risk areas has greatly increased overall vulnerability to windstorms.

【(3) Improved windstorm impact reduction measures have the potential to reduce these losses through—

【(A) cost-effective and affordable design and construction methods and practices;

【(B) effective mitigation programs at the local, State, and national level;

【(C) improved data collection and analysis and impact prediction methodologies;

【(D) engineering research on improving new structures and retrofitting existing ones to better withstand windstorms, atmospheric-related research to better understand the behavior and impact of windstorms on the built environment, and subsequent application of those research results; and

[(E) public education and outreach.

[(4) There is an appropriate role for the Federal Government in supporting windstorm impact reduction. An effective Federal program in windstorm impact reduction will require inter-agency coordination, and input from individuals, academia, the private sector, and other interested non-Federal entities.]

SEC. 202. PURPOSE.

It is the purpose of the Congress in this title to achieve a major measurable reduction in losses of life and property from windstorms through the establishment and maintenance of an effective Windstorm Impact Reduction Program. The objectives of such Program shall include—

(1) the education of households, businesses, and communities about the risks posed by windstorms, and the identification of locations, structures, lifelines, and segments of the community which are especially vulnerable to windstorm damage and disruption, and the dissemination of information on methods to reduce those risks;

(2) the development of technologically and economically feasible design and construction methods and procedures to make new and existing structures, in areas of windstorm risk, windstorm resilient, giving high priority to the development of such methods and procedures for lifelines, structures associated with a potential high loss of life, and structures that are especially needed in times of disasters, such as hospitals and public safety and shelter facilities;

(3) the implementation, in areas of major windstorm risk, of instrumentation to record and gather data on windstorms and the characteristics of the wind during those events, and continued research to increase the understanding of windstorm phenomena;

(4) the development, publication, and promotion, in conjunction with State and local officials and professional organizations, of model building codes and standards and other means to encourage consideration of information about windstorm risk in making decisions about land use policy and construction activity; and

(5) the facilitation of the adoption of windstorm risk mitigation measures in areas of windstorm risk by households, businesses, and communities through outreach, incentive programs, and other means.

SEC. 203. DEFINITIONS.

In this title:

(1) DIRECTOR.—The term “Director” means the [Director of the Office of Science and Technology Policy] *Director of the National Institute of Standards and Technology.*

* * * * *

[SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION PROGRAM.

[(a) ESTABLISHMENT.—There is established the National Windstorm Impact Reduction Program.

[(b) OBJECTIVE.—The objective of the Program is the achievement of major measurable reductions in losses of life and property from windstorms. The objective is to be achieved through a coordi-

nated Federal effort, in cooperation with other levels of government, academia, and the private sector, aimed at improving the understanding of windstorms and their impacts and developing and encouraging implementation of cost-effective mitigation measures to reduce those impacts.

[(c) INTERAGENCY WORKING GROUP.—Not later than 90 days after the date of enactment of this Act, the Director shall establish an Interagency Working Group consisting of representatives of the National Science Foundation, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, the Federal Emergency Management Agency, and other Federal agencies as appropriate. The Director shall designate an agency to serve as Chair of the Working Group and be responsible for the planning, management, and coordination of the Program, including budget coordination. Specific agency roles and responsibilities under the Program shall be defined in the implementation plan required under subsection (e). General agency responsibilities shall include the following:

[(1) The National Institute of Standards and Technology shall support research and development to improve building codes and standards and practices for design and construction of buildings, structures, and lifelines.

[(2) The National Science Foundation shall support research in engineering and the atmospheric sciences to improve the understanding of the behavior of windstorms and their impact on buildings, structures, and lifelines.

[(3) The National Oceanic and Atmospheric Administration shall support atmospheric sciences research to improve the understanding of the behavior of windstorms and their impact on buildings, structures, and lifelines.

[(4) The Federal Emergency Management Agency shall support the development of risk assessment tools and effective mitigation techniques, windstorm-related data collection and analysis, public outreach, information dissemination, and implementation of mitigation measures consistent with the Agency's all-hazards approach.

[(d) PROGRAM COMPONENTS.—

[(1) IN GENERAL.—The Program shall consist of three primary mitigation components: improved understanding of windstorms, windstorm impact assessment, and windstorm impact reduction. The components shall be implemented through activities such as data collection and analysis, risk assessment, outreach, technology transfer, and research and development. To the extent practicable, research activities authorized under this title shall be peer-reviewed, and the components shall be designed to be complementary to, and avoid duplication of, other public and private hazard reduction efforts.

[(2) UNDERSTANDING OF WINDSTORMS.—Activities to enhance the understanding of windstorms shall include research to improve knowledge of and data collection on the impact of severe wind on buildings, structures, and infrastructure.

[(3) WINDSTORM IMPACT ASSESSMENT.—Activities to improve windstorm impact assessment shall include—

[(A) development of mechanisms for collecting and inventorying information on the performance of buildings,

structures, and infrastructure in windstorms and improved collection of pertinent information from sources, including the design and construction industry, insurance companies, and building officials;

[(B) research, development, and technology transfer to improve loss estimation and risk assessment systems; and

[(C) research, development, and technology transfer to improve simulation and computational modeling of windstorm impacts.

[(4) WINDSTORM IMPACT REDUCTION.—Activities to reduce windstorm impacts shall include—

[(A) development of improved outreach and implementation mechanisms to translate existing information and research findings into cost-effective and affordable practices for design and construction professionals, and State and local officials;

[(B) development of cost-effective and affordable windstorm-resistant systems, structures, and materials for use in new construction and retrofit of existing construction; and

[(C) outreach and information dissemination related to cost-effective and affordable construction techniques, loss estimation and risk assessment methodologies, and other pertinent information regarding windstorm phenomena to Federal, State, and local officials, the construction industry, and the general public.

[(e) IMPLEMENTATION PLAN.—Not later than 1 year after date of enactment of this title, the Interagency Working Group shall develop and transmit to the Congress an implementation plan for achieving the objectives of the Program. The plan shall include—

[(1) an assessment of past and current public and private efforts to reduce windstorm impacts, including a comprehensive review and analysis of windstorm mitigation activities supported by the Federal Government;

[(2) a description of plans for technology transfer and coordination with natural hazard mitigation activities supported by the Federal Government;

[(3) a statement of strategic goals and priorities for each Program component area;

[(4) a description of how the Program will achieve such goals, including detailed responsibilities for each agency; and

[(5) a description of plans for cooperation and coordination with interested public and private sector entities in each program component area.

[(f) BIENNIAL REPORT.—The Interagency Working Group shall, on a biennial basis, and not later than 180 days after the end of the preceding 2 fiscal years, transmit a report to the Congress describing the status of the windstorm impact reduction program, including progress achieved during the preceding two fiscal years. Each such report shall include any recommendations for legislative and other action the Interagency Working Group considers necessary and appropriate. In developing the biennial report, the Interagency Working Group shall consider the recommendations of the Advisory Committee established under section 205.]

SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION PROGRAM.

(a) *ESTABLISHMENT.*—There is established the National Windstorm Impact Reduction Program.

(b) *PROGRAM ACTIVITIES.*—The activities of the Program shall be designed to—

(1) *research and develop cost-effective, feasible methods, tools, and technologies to reduce the risks posed by windstorms to the built environment, especially to lessen the risk to existing structures and lifelines;*

(2) *improve the understanding of windstorms and their impacts on households, businesses, communities, buildings, structures, and lifelines, through interdisciplinary and multidisciplinary research that involves engineering, natural sciences, and social sciences; and*

(3) *facilitate the adoption of windstorm risk reduction measures by households, businesses, communities, local, State and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning for disasters and planning, constructing, retrofitting, and insuring buildings, structures, and lifelines through—*

(A) *grants, contracts, cooperative agreements, and technical assistance;*

(B) *development of hazard maps, standards, guidelines, voluntary consensus standards, and other design guidance for windstorm risk reduction for buildings, structures, and lifelines;*

(C) *outreach and information dissemination to communities on site specific windstorm hazards and ways to reduce the risks from those hazards; and*

(D) *development and maintenance of a repository of information, including technical data, on windstorm hazards and risk reduction;*

(c) *RESPONSIBILITIES OF PROGRAM AGENCIES.*—

(1) *LEAD AGENCY.*—The National Institute of Standards and Technology (in this section referred to as the “Institute”) shall be responsible for planning and coordinating the Program. In carrying out this paragraph, the Director of the Institute shall—

(A) *ensure that the Program includes the necessary components to promote the implementation of windstorm risk reduction measures by households, businesses, communities, local, State, and Federal governments, national standards and model building code organizations, architects and engineers, building owners, and others with a role in planning and preparing for disasters, and planning constructing, and retrofitting, and insuring buildings, structures, and lifelines;*

(B) *support the development of performance-based engineering tools, and work with the appropriate groups to promote the commercial application of such tools, through wind-related building codes, standards, and construction practices;*

(C) *ensure the use of social science research and findings in informing the development of technology and research*

priorities, in communicating windstorm risks to the public, in developing windstorm risk mitigation strategies, and in preparing for windstorm disasters;

(D) coordinate all Federal post-windstorm investigations; and

(E) when warranted by research or investigative findings, issue recommendations for changes in model codes to the relevant code development organizations, and report back to Congress on whether such recommendations were adopted.

(2) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—In addition to the lead agency responsibilities described under paragraph (1), the Institute shall be responsible for carrying out research and development to improve model codes, standards, design guidance and practices for the construction and retrofit of buildings, structures, and lifelines. In carrying out this paragraph, the Director of the Institute shall—

(A) support the development of instrumentation, data processing, and archival capabilities, and standards for the instrumentation and its deployment, to measure wind, wind loading, and other properties of severe wind and structure response;

(B) coordinate with other appropriate Federal agencies to make the data described in subparagraph (A) available to researchers, standards and code developers, and local planners;

(C) support the development of tools and methods for the collection of data on the loss of and damage to structures, and data on surviving structures after severe windstorm events;

(D) improve the knowledge of the impact of severe wind on buildings, structures, lifelines, and communities;

(E) develop cost-effective windstorm impact reduction tools, methods, and technologies;

(F) work, in conjunction with other appropriate Federal agencies, to support the development of wind standards and model codes; and

(G) in conjunction with other appropriate Federal agencies, work closely with standards and model code development organizations, professional societies, and practicing engineers, architects, and others involved in the construction of buildings, structures, and lifelines, to promote better building practices, including by—

(i) supporting the development of technical resources for practitioners to implement new knowledge; and

(ii) supporting the development of methods and tools to incorporate wind engineering principles into design and construction practices.

(3) FEDERAL EMERGENCY MANAGEMENT AGENCY.—The Federal Emergency Management Agency shall support the development of risk assessment tools and effective mitigation techniques, assist with windstorm-related data collection and analysis, and support outreach, information dissemination, and implementation of windstorm preparedness and mitigation meas-

ures by households, businesses, and communities, including by—

(A) working to develop or improve risk-assessment tools, methods, and models;

(B) work closely with other appropriate Federal agencies to develop and facilitate the adoption of windstorm impact reduction measures, including by—

(i) developing cost-effective retrofit measures for existing buildings, structures, and lifelines to improve windstorm performance;

(ii) developing methods, tools, and technologies to improve the planning, design, and construction of new buildings, structures, and lifelines;

(iii) supporting the development of model wind codes and standards for buildings, structures, and lifelines; and

(iv) developing technical resources for practitioners that reflect new knowledge and standards of practice; and

(C) develop and disseminate guidelines for the construction of windstorm shelters.

(4) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—The National Oceanic and Atmospheric Administration shall support atmospheric sciences research and data collection to improve the understanding of the behavior of windstorms and their impact on buildings, structures, and lifelines, including by—

(A) working with other appropriate Federal agencies to develop and deploy instrumentation to measure speed and other characteristics of wind, and to collect, analyze, and make available such data;

(B) working with officials of State and local governments to ensure that they are knowledgeable about, and prepared for, the specific windstorm risks in their area;

(C) supporting the development of suitable wind speed maps and other derivative products that support building codes and other hazard mitigation approaches for buildings, structures, and lifelines;

(D) conducting a competitive, peer-reviewed process which awards grants and cooperative agreements to complement the National Oceanic and Atmospheric Administration's wind-related and storm surge-related research and data collection activities;

(E) working with other appropriate Federal agencies and State and local governments to develop or improve risk-assessment tools, methods, and models; and

(F) working with other appropriate Federal agencies to develop storm surge models to better understand the interaction between windstorms and bodies of water.

(5) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding basic research that furthers the understanding of windstorms, wind engineering, and community preparation and response to windstorms. In carrying out this paragraph, the Director of the National Science Foundation shall—

(A) support multidisciplinary and interdisciplinary research that will improve the resiliency of communities to windstorms, including—

(i) research that improves the safety and performance of buildings, structures, and lifelines;

(ii) research to support more effective windstorm mitigation and response measures, such as developing better knowledge of the specific types of vulnerabilities faced by segments of the community vulnerable to windstorms, addressing the barriers they face in adopting mitigation and preparation measures, and developing methods to better communicate the risks of windstorms and to promote mitigation; and

(iii) research on the response of communities to windstorms, including on the effectiveness of the emergency response, and the recovery process of communities, households, and businesses;

(B) support research to understand windstorm processes, windstorm patterns, and windstorm frequencies;

(C) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and development of intellectual property so research results can be used by appropriate organizations to mitigate windstorm damage;

(D) work with other Program agencies to maintain awareness of, and where appropriate cooperate with, windstorm risk reduction research efforts in other countries, to ensure that the Program benefits from relevant information and advances in those countries; and

(E) include to the maximum extent practicable diverse institutions, including Historically Black Colleges and Universities, Hispanic-serving institutions, Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions.

* * * * *

[SEC. 207. AUTHORIZATION OF APPROPRIATIONS.

[(a) FEDERAL EMERGENCY MANAGEMENT AGENCY.—There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this title—

[(1) \$8,700,000 for fiscal year 2006;

[(2) \$9,400,000 for fiscal year 2007; and

[(3) \$9,400,000 for fiscal year 2008.

[(b) NATIONAL SCIENCE FOUNDATION.—There are authorized to be appropriated to the National Science Foundation for carrying out this title—

[(1) \$8,700,000 for fiscal year 2006;

[(2) \$9,400,000 for fiscal year 2007; and

[(3) \$9,400,000 for fiscal year 2008.

[(c) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this title—

[(1) \$3,000,000 for fiscal year 2006;

[(2) \$4,000,000 for fiscal year 2007; and

[(3) \$4,000,000 for fiscal year 2008.

[(d) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—There are authorized to be appropriated to the National Oceanic and Atmospheric Administration for carrying out this title—

- [(1) \$2,100,000 for fiscal year 2006;
- [(2) \$2,200,000 for fiscal year 2007; and
- [(3) \$2,200,000 for fiscal year 2008.]

SEC. 207. AUTHORIZATION OF APPROPRIATIONS.

(a) FEDERAL EMERGENCY MANAGEMENT AGENCY.—*There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this title—*

- (1) \$9,682,000 for fiscal year 2010;
- (2) \$9,972,500 for fiscal year 2011;
- (3) \$10,271,600 for fiscal year 2012;
- (4) \$10,579,800 for fiscal year 2013; and
- (5) \$10,897,200 for fiscal year 2014.

(b) NATIONAL SCIENCE FOUNDATION.—*There are authorized to be appropriated to the National Science Foundation for carrying out this title—*

- (1) \$9,682,000 for fiscal year 2010;
- (2) \$9,972,500 for fiscal year 2011;
- (3) \$10,271,600 for fiscal year 2012;
- (4) \$10,579,800 for fiscal year 2013; and
- (5) \$10,897,200 for fiscal year 2014.

(c) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—*There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this title—*

- (1) \$4,120,000 for fiscal year 2010;
- (2) \$4,243,600 for fiscal year 2011;
- (3) \$4,370,900 for fiscal year 2012;
- (4) \$4,502,000 for fiscal year 2013; and
- (5) \$4,637,100 for fiscal year 2014.

(d) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—*There are authorized to be appropriated to the National Oceanic and Atmospheric Administration for carrying out this title—*

- (1) \$2,266,000 for fiscal year 2010;
- (2) \$2,334,000 for fiscal year 2011;
- (3) \$2,404,000 for fiscal year 2012;
- (4) \$2,476,100 for fiscal year 2013; and
- (5) \$2,550,400 for fiscal year 2014.

* * * * *

NATIONAL CONSTRUCTION SAFETY TEAM ACT

* * * * *

SEC. 2. NATIONAL CONSTRUCTION SAFETY TEAMS.

(a) ESTABLISHMENT.—The Director of the National Institute of Standards and Technology (in this Act referred to as the “Director”) is authorized to establish National Construction Safety Teams (in this Act referred to as a “Team”) for deployment after events causing the failure of [a building or buildings] *a building, buildings, or infrastructure* that has resulted in substantial loss of life or that posed significant potential for substantial loss of life. [To the maximum extent practicable, the Director shall establish and deploy a

Team within 48 hours after such an event.] *The Director shall make a decision whether to deploy a Team within 72 hours after such an event.* The Director shall promptly publish in the Federal Register notice of the establishment of each Team.

(b) PURPOSE OF INVESTIGATION; DUTIES.—

(1) PURPOSE.—The purpose of investigations by Teams is to improve the safety and structural integrity of **[buildings]** *buildings or infrastructure* in the United States.

(2) DUTIES.—A Team shall—

(A) establish the likely technical cause or causes of the **[building]** *building or infrastructure* failure;

* * * * *

(D) recommend any research and other appropriate actions needed to improve the structural safety of **[buildings]** *buildings or infrastructure*, and improve evacuation and emergency response procedures, based on the findings of the investigation.

(c) PROCEDURES.—

(1) DEVELOPMENT.—Not later than 3 months after the date of the enactment of this Act, the Director, in consultation with **[the United States Fire Administration and]** other appropriate Federal agencies, shall develop procedures for the establishment and deployment of Teams. The Director shall update such procedures as appropriate. Such procedures shall include provisions—

(A) * * *

* * * * *

(G) to ensure that investigations under this Act do not impede and are coordinated with any search and rescue efforts being undertaken at the site of the **[building]** *building or infrastructure* failure;

* * * * *

(J) providing for coordination with Federal, State, and local entities that may sponsor research or investigations of **[building]** *building or infrastructure* failures, including research conducted under the Earthquake Hazards Reduction Act of 1977 and the National Windstorm Impact Reduction Act of 2004; and

* * * * *

SEC. 4. AUTHORITIES.

(a) ENTRY AND INSPECTION.—In **[investigating a building]** *investigating building and infrastructure* failure under this Act, members of a Team, and any other person authorized by the Director to support a Team, on display of appropriate credentials provided by the Director and written notice of inspection authority, may—

(1) enter property where **[a building]** *a building or infrastructure* failure being investigated has occurred, or where **[building]** *building or infrastructure* components, materials, and artifacts with respect to the **[building]** *building or infrastructure* failure are located, and take action necessary, appropriate, and reasonable in light of the nature of the property to

be inspected to carry out the duties of the Team under section 2(b)(2) (A) and (B);

* * * * *

(3) inspect and test any **[building]** *building or infrastructure* components, materials, and artifacts related to the **[building]** *building or infrastructure* failure; and

* * * * *

(b) AVOIDING UNNECESSARY INTERFERENCE AND PRESERVING EVIDENCE.—An inspection, test, or other action taken by a Team under this section shall be conducted in a way that—

(1) does not interfere unnecessarily with services provided by the owner or operator of the **[building]** *building or infrastructure* components, materials, or artifacts, property, records, process, or facility; and

(2) to the maximum extent feasible, preserves evidence related to the **[building]** *building or infrastructure* failure, consistent with the ongoing needs of the investigation.

(c) COORDINATION.—

(1) WITH SEARCH AND RESCUE EFFORTS.—A Team shall not impede, and shall coordinate its investigation with, any search and rescue efforts being undertaken at the site of the **[building]** *building or infrastructure* failure.

(2) WITH OTHER RESEARCH.—A Team shall coordinate its investigation, to the extent practicable, with qualified researchers who are conducting engineering or scientific (including social science) research relating to the **[building]** *building or infrastructure* failure.

* * * * *

(d) INTERAGENCY PRIORITIES.—

(1) * * *

* * * * *

(3) CRIMINAL ACTS.—If the Attorney General, in consultation with the Director, determines, and notifies the Director, that circumstances reasonably indicate that the **[building]** *building or infrastructure* failure being investigated by a Team may have been caused by a criminal act, the Team shall relinquish investigative priority to the appropriate law enforcement agency. The relinquishment of investigative priority by the Team shall not otherwise affect the authority of the Team to continue its investigation under this Act.

(4) PRESERVATION OF EVIDENCE.—If a Federal law enforcement agency suspects and notifies the Director that a **[building]** *building or infrastructure* failure being investigated by a Team under this Act may have been caused by a criminal act, the Team, in consultation with the Federal law enforcement agency, shall take necessary actions to ensure that evidence of the criminal act is preserved.

* * * * *

SEC. 7. DISCLOSURE OF INFORMATION.

(a) GENERAL RULE.—Except as otherwise provided in this section, a copy of a record, information, or investigation submitted or

received by a Team shall be made available to the public [on request and at reasonable cost].

* * * * *

(c) PROTECTION OF VOLUNTARY SUBMISSION OF INFORMATION.— Notwithstanding any other provision of law, a Team, the National Institute of Standards and Technology, and any agency receiving information from a Team or the National Institute of Standards and Technology, shall not disclose voluntarily provided safety-related information if that information is not directly related to the [building] *building or infrastructure* failure being investigated and the Director finds that the disclosure of the information would inhibit the voluntary provision of that type of information.

* * * * *

SEC. 8. NATIONAL CONSTRUCTION SAFETY TEAM REPORT.

Not later than 90 days after completing an investigation, a Team shall issue a public report which includes—

(1) an analysis of the likely technical cause or causes of the [building] *building or infrastructure* failure investigated;

* * * * *

(4) recommendations for research and other appropriate actions needed to help prevent future [building] *building or infrastructure* failures.

SEC. 9. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACTIONS.

After the issuance of a public report under section 8, the National Institute of Standards and Technology shall comprehensively review the report and, working with [the United States Fire Administration and] other appropriate Federal and non-Federal agencies and organizations—

(1) * * *

(2) promote (consistent with existing procedures for the establishment of building standards, codes, and practices) the appropriate adoption by the Federal Government, and encourage the appropriate adoption by other agencies and organizations, of the recommendations of the Team with respect to—

(A) * * *

* * * * *

(C) other actions needed to help prevent future [building] *building or infrastructure* failures.

SEC. 10. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ANNUAL REPORT.

Not later than February 15 of each year, the Director shall transmit to the Committee on Science of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report that includes—

(1) * * *

* * * * *

(3) a description of the actions taken to improve [building] *building and infrastructure* safety and structural integrity by the National Institute of Standards and Technology during the prior fiscal year in response to reports issued under section 8.

SEC. 11. ADVISORY COMMITTEE.

(a) ESTABLISHMENT AND FUNCTIONS.—The Director, in consultation with [the United States Fire Administration and] other appropriate Federal agencies, shall establish an advisory committee to advise the Director on carrying out this Act and to review the procedures developed under section 2(c)(1) and the reports issued under section 8.

* * * * *

[SEC. 12. ADDITIONAL APPLICABILITY.

[The authorities and restrictions applicable under this Act to the Director and to Teams shall apply to the activities of the National Institute of Standards and Technology in response to the attacks of September 11, 2001.]

* * * * *

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT

* * * * *

SEC. 16. (a) There is hereby established within the Department of Commerce a Fire Research Center which shall have the mission of performing and supporting research on all aspects of fire with aim of providing scientific and technical knowledge applicable to the prevention and control of fires. The content and priorities of the research program shall be determined in consultation with the Administrator of the United States Fire Administration. In implementing this section, the Secretary is authorized to conduct, directly or through contracts or grants, a fire research program, including—

(1) basic and applied fire research for the purpose of arriving at an understanding of the fundamental processes underlying all aspects of fire. Such research shall include scientific investigations of—

(A) * * *

* * * * *

(D) the early stages of fires in buildings and other structures, structural subsystems and structural components in all other types of fires, including, but not limited to, *fires at the wildland-urban interface*, forest fires, brush fires, fires underground, oil blowout fires, and waterborne fires, with the aim of improving early detection capability;

(E) the behavior of fires involving all types of buildings and other structures and their contents (including mobile homes and highrise buildings, construction materials, floor and wall coverings, coatings, furnishings, and other combustible materials), and all other types of fires, including *fires at the wildland-urban interface*, forest fires, brush fires, fires underground, oil blowout fires, and waterborne fires;

* * * * *

XX. COMMITTEE RECOMMENDATIONS

On October 21, 2009, the Committee on Science and Technology favorably reported H.R. 3820 by voice vote and recommended its enactment.

BART GORDON, TENNESSEE
CHAIRMAN

RALPH M. HALL, TEXAS
RANKING MEMBER

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY

SUITE 2321 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6301
(202) 225-6375
<http://science.house.gov>

February 24, 2010

The Honorable Nick J. Rahall, II
Chairman
Committee on Natural Resources
U.S. House of Representatives
1324 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Rahall:

Thank you for your letter regarding H.R. 3820, the Natural Hazards Risk Reduction Act of 2009. Your support for this legislation and your assistance in ensuring its timely consideration are greatly appreciated.

I agree that provisions in the bill are of jurisdictional interest to the Committee on Natural Resources. I acknowledge that by discharging the Committee on Natural Resources from further consideration of H.R. 3820, your Committee is not relinquishing its jurisdiction and I will fully support your request to be represented in a House-Senate conference on those provisions over which the Committee on Natural Resources has jurisdiction. A copy of our letters will be placed in the Committee Report on H.R. 3820 and in the *Congressional Record* during consideration of the bill on the House floor.

I value your cooperation and look forward to working with you as we move ahead with this important legislation.

Sincerely,



BART GORDON
Chairman

cc: The Honorable Nancy Pelosi, Speaker
The Honorable Doc Hastings, Ranking Member
The Honorable Ralph M. Hall, Ranking Member, Committee on Science and Technology
The Honorable John Sullivan, Parliamentarian

XXII: PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 3820, THE NATURAL HAZARDS RISK REDUCTION ACT OF 2009

WEDNESDAY, OCTOBER 21, 2009

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

The Committee met, pursuant to call, at 10:18 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Bart Gordon [Chairman of the Committee] presiding.

Chairman GORDON. Good morning. The Committee will come to order.

Pursuant to notice, the Committee on Science and Technology meets to consider the following measures: H.R. 3791, the *Fire Grants Reauthorization Act of 2009*, and H.R. 3820, the *Natural Hazards Risk Reduction Act of 2009*.

As I just noted today, the Committee will consider two important bills. Both of these bills address pressing national needs, and both are the product of bipartisan cooperation and stakeholder input.

The first bill the Committee will consider today is H.R. 3791. This bill reauthorizes the Assistance to Firefighters Grant [AFG] Program and the Staffing for Adequate Fire and Emergency Response [SAFER] Program. Over the past nine years, these programs have provided over \$5 billion to purchase firefighting equipment and training for communities and to hire additional firefighters. The federal support is even more important in this tough economy as local officials struggle to provide services in the face of decreasing budgets.

H.R. 3791 is the product of much hard work by the International Association of Fire Chiefs, the International Association of Fire Fighters, the National Volunteer Fire Council and the National Fire Protection Association, as well as the Congressional Fire Services Institute. It represents the consensus of these organizations on how these programs should be improved. I am pleased that the bill has been endorsed by so many of these groups, and I look forward to working with them as we move to get this bill enacted.

The second bill the Committee will consider today, H.R. 3820, reauthorizes two important programs that support research, development and technology transfer activities to mitigate against the potential damage caused by earthquakes and severe windstorms. The impact of natural hazards on communities can be devastating. In the past two years in my district in Middle Tennessee, tornadoes

have killed 24 people and injured over 100. Making households, businesses, and communities resistant to these forces of nature can save lives and billions of dollars.

H.R. 3820 reauthorizes the National Earthquake Hazards Reduction Program and the National Windstorm Impact Reduction Program. The National Earthquake Hazards Reduction Program, known as NEHRP, has been responsible for development of a variety of codes and standards to enable buildings and other infrastructures to withstand earthquakes. This reauthorization addresses some of the biggest challenges in earthquake mitigation: developing methods to retrofit existing structures, secure infrastructure, and, most importantly, convince people in earthquake-prone areas to invest in preparedness and mitigation measures.

H.R. 3820 also reauthorizes the National Windstorm Impact Reduction Program. The goal of this reauthorization is to enable this program, created in 2004, to achieve the same success. Support for R&D for wind hazard mitigation has lagged behind that for other hazards. The activities authorized in this bill can lead to improved building practices that will protect life, and contain the ever-increasing costs of hurricanes, tornadoes, and other severe windstorms.

At a Technology and Innovation Subcommittee hearing this June, witnesses testified that much of the challenge in natural disaster mitigation was not in more research, but in implementing the knowledge that already exists. This bill includes a strong focus on the lessons learned from the different natural hazards and encourages implementation of those lessons.

I strongly support both of these bills and I would urge a yes vote.

I now recognize Mr. Hall to present his opening remarks.

[The prepared statement of Chairman Gordon follows:]

PREPARED STATEMENT OF CHAIRMAN BART GORDON

The Committee on Science and Technology meets to consider the following measures: H.R. 3791, the *Fire Grants Reauthorization Act of 2009*, and H.R. 3820, the *Natural Hazards Risk Reduction Act of 2009*.

Both of these bills address pressing national needs, and both are the product of bipartisan cooperation and stakeholder input.

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H.R. 3791 is the product of much hard work by the International Association of Fire Chiefs, the International Association of Fire Fighters, the National Volunteer Fire Council and the National Fire Protection Association, as well as the Congressional Fire Services Institute. It represents the consensus of these organizations on how these programs should be improved. I am pleased that the bill has been endorsed by so many of these groups, and I look forward to working with them as we move to get this bill enacted.

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H.R. 3820 reauthorizes the National Earthquake Hazards Reduction Program and the National Windstorm Impact Reduction Program. The National Earthquake Haz-

ards Reduction Program, known as NEHRP, has been responsible for development of a variety of codes and standards to enable buildings and other infrastructures to withstand earthquakes. This reauthorization addresses some of the biggest challenges in earthquake mitigation: developing methods to retrofit existing structures, secure infrastructure, and, most importantly, convince people in earthquake-prone areas to invest in preparedness and mitigation measures.

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I strongly support both of these bills and I would urge a yes vote.
I now recognize Mr. Hall to present his opening remarks.

Mr. HALL. Mr. Chairman, thank you, and I appreciate this markup, especially the very bipartisan spirit in which the bills before us today have been handled, so I can be brief.

We are here of course to consider two bills that reauthorize four important programs that have been created by the Committee over the years. The common thread among these programs is leveraging federal resources to reduce our vulnerability to hazards, principally earthquakes, windstorms and fires. The first bill before us, H.R. 3820, makes modest changes to improve coordination among federal agencies responsible for earthquake and windstorm research and hazard mitigation. The second bill, H.R. 3791, reauthorizes the Fire Grants Program which I know have provided critical support to a lot of departments including in my district, and I am going to note my strong support for both of these bills and express my appreciation to Chairman Gordon and to his staff for working with our us and with outside stakeholders to get the details right on both of the bills. I look forward to the discussion of the proposed amendments and working with our colleagues to see these bills through the rest of the legislative process.

I thank you, and I yield back.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

Good morning, Mr. Chairman. I want to thank you for scheduling this markup and for the bipartisan spirit in which the bills before us today have been handled. I'll be brief.

We are here to consider two bills that reauthorize four important programs that have been created by this committee over the years. The common thread among these programs is leveraging federal resources to reduce our vulnerability to hazards—primarily earthquakes, windstorms, and fires.

The first bill before us, H.R. 3820, makes modest changes to improve coordination among federal agencies responsible for earthquake and windstorm research and hazard mitigation. The second bill, H.R. 3791, reauthorizes the "Fire Grants programs," which I know have provided critical support to fire departments in my district.

I want to note my strong support for both of these bills, and express my appreciation to Chairman Gordon and his staff for working with us and with outside stakeholders to get the details right on both of these bills. I look forward to discussion on the proposed amendments and to working with our colleagues to see these bills through the rest of the legislative process. I yield back.

Chairman GORDON. Thank you, Mr. Hall. And Members may place statements in the record at this point.

We will now consider H.R. 3820, the *Natural Hazards Risk Reduction Act of 2009*. I recognize the Chair of the Technology and Innovation Subcommittee, Mr. Wu, to describe his bill.

Mr. WU. Thank you very much, Mr. Chairman. As you know, timing is everything.

This reauthorizes two important programs that address important hazards, earthquakes and windstorms, and establishes a framework to begin joining together a multi-hazards approach to mitigating natural disasters. I would like to thank the Ranking Member of the Technology and Innovation Subcommittee, the gentleman from Nebraska, Mr. Smith, and his staff, and also the Full Committee staff and Subcommittee staff for working closely with me in developing this legislation.

In my home State of Oregon, we are very, very well aware of the threats posed by natural hazards. The Cascadia fault line off our coast could devastate Oregon with a 9.0 to 9.5 Richter Scale earthquake. Also, because it is offshore, the associated tsunami would affect the coastline or devastate a coastline that may have been cut off by the earthquake from the rest of the valley for aid and support. It is not just seismic activity or tsunami that has the potential for vast destruction in the Pacific Northwest. Two years ago, a windstorm with winds reported up to 140 miles an hour caused 18 deaths and nearly \$200 million in damage in Oregon and Washington.

Since 1977, the National Earthquake Hazards Reduction Program, or NEHRP, which this bill reauthorizes, has supported research and development to better understand earthquakes and their impact and to improve the seismic safety of buildings and other infrastructure. This work has led to improved seismic monitoring with the Advanced National Seismic System, better building practices in seismic regions and increased public awareness of the need to prepare for earthquakes. The success of such efforts can be seen in the recent California Shake Out in which 6.8 million Californians participated in earthquake drills. After widespread drills, people are often more driven to prepare for future earthquakes, purchasing double the earthquake mitigation materials at home improvement stores.

H.R. 3820 also reauthorizes the National Windstorm Impact Reduction Program. At a hearing in June of the Technology and Innovation Subcommittee, testimony stated that wind hazard mitigation R&D has received much less attention than earthquakes and other hazards from the research community. It is because of the nature of the problem itself is not quite as technically challenging and also there is not as long a history of investigation. However, over 200 lives are lost each year and \$16 billion are lost to severe weather events. The problem with windstorm damage is therefore no less important than that of earthquakes. A strong windstorm R&D program can enable faster development and implementation of codes, standards and practices to mitigate against windstorm damage.

H.R. 3820 provides the windstorm program with the same coordination structure that created a successful NEHRP program. Based on hearings and recommendations from the stakeholder community, the *Natural Hazards Risk Reduction Act of 2009* also lays the

foundation to consider natural hazards R&D in a multi-hazard framework. The bill establishes the National Institute of Standards and Technology [NIST] as the lead agency for both the earthquake and wind programs and gives primary responsibility for ensuring interagency coordination to one committee of program agency directors. In addition, the bill requires that the National Science and Technology Council Subcommittee on Disaster Reduction prepare a report to Congress that identifies all the natural hazards R&D and technology transfer activities supported by the Federal Government. In addition to identifying the activities, the purpose of the report is to find commonalities among research activities for different hazards and to identify ways to coordinate this work.

It is clear that the biggest impediment to mitigating natural disasters is encouraging people to actually adopt mitigation measures. Changes to codes, standards and building practices are an important component to addressing this challenge. To enable this, H.R. 3820 includes provisions to give NIST greater flexibility in implementing the *National Construction Safety Team Act*. This Act, passed after the collapse of the World Trade Center towers, gives NIST the authority to lead building failure investigations. The Act requires NIST to issue recommendations based on the investigation findings and to provide building practices and report to Congress on whether its recommendations were adopted by building code developers. The changes made to NIST's authorities in H.R. 3820 will give the agency the flexibility to lead investigations after all natural disasters to study the effects of these disasters on all types of structures. As was highlighted in two Subcommittee hearings on hazard-related programs, science and engineering research is important but it is the push to implement better building practices that will save lives and money. This provision is a key element to make sure this happens. I would also like to add that this bill has been endorsed by the American Society of Civil Engineers.

I am pleased to offer this bill today, and I urge my colleagues to vote yes on its passage.

Chairman GORDON. Thank you, Mr. Wu, and I also want to thank you and Mr. Smith for the hard work that you put in on the Subcommittee. You have brought up some good bills and you put the work behind it to bring them to us.

Mr. Hall is recognized.

Mr. HALL. Mr. Chairman, I yield to the Ranking Member of the Subject Committee.

Mr. SMITH OF NEBRASKA. Thank you, Mr. Hall. Thank you, Mr. Chairman.

In the interest of time and not wanting to repeat anything that has already been said, the gentleman from the Pacific Northwest spoke as a Representative of that area, so as a Representative of the, I guess, heartland Midwest, I add my support to the amendment and I yield back. Thank you.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF REPRESENTATIVE ADRIAN SMITH

Thank you, Mr. Chairman, for including H.R. 3820, the *Natural Hazards Risk Reduction Act of 2009*, as part of today's markup. It is good legislation which will improve federal hazards mitigation efforts, and I am pleased to have joined Technology and Innovation Subcommittee Chairman Wu as an original co-sponsor.

Natural hazards—floods, wildfires, tornadoes, hurricanes, and earthquakes—present a common mitigation challenge. While inevitable and potentially catastrophic events, they are infrequent and relatively unpredictable. They also share much from a mitigation perspective: overlapping research and development needs, similar challenges with respect to improving building codes and standards, and common emergency preparedness and response requirement objectives.

Accordingly, it makes sense for us to leverage federal activities in this area, which this bill attempts to do. Building on the successful interagency coordination framework for earthquake hazards—known as NEHRP—the bill moves toward a similar interagency structure for windstorm hazard reduction efforts. It also incorporates an additional coordination mechanism to improve the linkage between earthquake and windstorm hazards efforts in order to strengthen strategic planning and prioritization.

I want to thank Chairman Wu for working closely with me in developing this legislation. I urge Members to support passage of the bill, and I hope we can see it through the rest of the legislative process in a timely manner.

I yield back.

Mr. HALL. I yield back.

Chairman GORDON. Does anyone else wish to be recognized?

Mr. BILBRAY. Mr. Chairman.

Chairman GORDON. Mr. Bilbray.

Mr. BILBRAY. Mr. Chairman, I just ask that, one of the items that is going to go in here is when you get these studies, the recommendations or modifications of the Unified Building Code, probably one of the most successful government regulations ever formed anywhere. My biggest concern is that we keep in mind that as scientists look at that, that we look at alternative technologies. Too often, so much of this is figured out is in concrete and steel and brick but not looking at alternative constructions, renewable material and things like that. I would just like to make sure down the line we sensitize the scientists and the building inspectors to the fact that they should be looking at non-traditional building materials that may be very successful. An example that kind of shocked everybody was the fact that in the mission district of San Francisco, the one building that has survived all the earthquakes in the history of that city has been the Mission at San Francisco, which is unreinforced masonry technically but because it is adobe, it is able to work and survive, though under the building code you could not build that building today because it is perceived as being unsafe. I just think that as scientists look at this, that they should be looking at alternative construction as being an option they need to look deeper into. It may save a lot of money, may save a lot of lives and be able to give us a sustainable resource to be able to use for construction. So as we get in here, I really ask that we remember that as our scientists look at this and building inspectors look at this, they look at non-traditional building materials as being an option. And I am not specifically saying let us building adobe but I am saying there is a whole lot of other construction. As the gentleman from Nebraska pointed out, they actually developed a technique a hundred years ago called straw bale construction which is absolutely very resistant to earthquake and wind damage but it is one that is probably not legal anywhere in this country except for small segments that have gotten the research and improved it. So I yield back, Mr. Chairman.

Chairman GORDON. Thank you, Mr. Bilbray.

Does anyone else wish to be recognized? If not, I ask unanimous consent that the bill is considered as read and open to amendment

at any point and that the Members proceed with amendments in the order of the roster. Without objection, so ordered.

The first amendment on the roster is a Manager's Amendment offered by the gentleman from Oregon, Mr. Wu. Are you ready to proceed with your amendment?

Mr. WU. Yes, I am, Mr. Chairman.

Chairman GORDON. The Clerk will report the amendment.

The CLERK. Amendment number 205—025, amendment to H.R. 3820 offered by Mr. Wu of Oregon and Mr. Smith of Nebraska.

Chairman GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. WU. Thank you very much, Mr. Chairman.

This amendment makes minor and technical changes to H.R. 3820. It changes the language regarding the National Science Foundation's [NSF] social science research to authorize such research on the specific types of vulnerabilities faced by segments of the community vulnerable to natural hazards. This broadens the language from population groups and economic sectors to give the NSF more flexibility. The amendment also changes the NOAA [National Oceanic and Atmospheric Administration] portion of the bill under Title II to clarify that the development of hazard assessment models and tools should be done in collaboration with both federal agencies and state and local governments. It further clarifies that NOAA's responsibility under this program will be the development of wind speed maps but not their maintenance. The maintenance of these maps is handled by other agencies, and with that, Mr. Chairman, I yield back the balance of my time.

Chairman GORDON. Is there further discussion on the amendment?

Mr. HALL. Mr. Chairman.

Chairman GORDON. Mr. Hall is recognized.

Mr. HALL. We supported the amendment before Mr. Wu's explanation, and we still support it.

Chairman GORDON. Mr. Wu appreciates that.

If there is no further discussion, then the vote occurs on the amendment. All in favor, say aye. Those opposed, no. The ayes have it, and the amendment is agreed to.

The second amendment on the roster is an amendment offered by the gentleman from Florida, Mr. Grayson. Are you ready to proceed with your amendment?

Mr. GRAYSON. Yes, Mr. Chairman.

Chairman GORDON. The Clerk will report the amendment.

The CLERK. Amendment number 034, amendment to H.R. 3820, offered by Mr. Grayson of Florida.

Chairman GORDON. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. GRAYSON. Mr. Chairman, this is a technical amendment. This has to do with Section 204 of this bill, which establishes the National Windstorm Impact Reduction Program and assigns certain activities to certain agencies under the Section C of Section

204. Specifically under paragraph 204(c)(4), NOAA is asked under this bill as drafted to improve understanding of windstorms and their impact on buildings, structures and lifelines. That list, buildings, structures and lifelines, does not include bodies of water. I believe it is important to have NOAA identify the impact of windstorms on bodies of water, particularly in coastal areas but also in areas like mine that have many, many lakes. So I am moving to amend the bill on the basis stated, which is to add the term "interaction between windstorms and bodies of water" to this list of assignments to NOAA to perform research.

Thank you. I yield the rest of my time.

Chairman GORDON. Thank you, Mr. Grayson. Is there further discussion on the amendment?

Mr. BROUN. Mr. Chairman.

Chairman GORDON. Dr. Broun is recognized.

Mr. BROUN. I would like to ask Mr. Grayson if this is a bill of attainder. I yield back.

Chairman GORDON. I think we all should.

Is there further discussion on the amendment? If no, the vote occurs on the amendment. All in favor say aye. Opposed, no. The ayes have it. The amendment is agreed to.

Are there any other amendments? If no, then the vote is on the bill, H.R. 3820 as amended. All in favor, say aye. All those opposed, no. In the opinion of the Chair, the ayes have it.

I recognize Mr. Tonko to offer a motion.

Mr. TONKO. Yes. Mr. Chair, I move that the Committee favorably report H.R. 3820 as amended to the House with the recommendation that the bill do pass. Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chair take all necessary steps to bring the bill before the House for consideration.

Chairman GORDON. The question is now on the motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Opposed, no. The ayes have it, and the bill is favorably reported.

Without objection, the motion to reconsider is laid upon the table. Members will have two subsequent calendar days in which to submit supplemental, Minority and additional views on the measure, and I want to thank all the Members for being here and taking part in this good markup. Thank you.

[Whereupon, at 11:35 a.m., the Committee was adjourned.]

Appendix:

H.R. 3820, SECTION-BY-SECTION ANALYSIS, AMENDMENT ROSTER



111TH CONGRESS
1ST SESSION **H. R. 3820**

To reauthorize Federal natural hazards reduction programs, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

OCTOBER 15, 2009

Mr. WU (for himself, Mr. SMITH of Nebraska, Mr. GRAYSON, and Mr. MOORE of Kansas) introduced the following bill; which was referred to the Committee on Science and Technology, and in addition to the Committees on Natural Resources and Transportation and Infrastructure, 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 reauthorize Federal natural hazards reduction programs, 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 "Natural Hazards Risk
5 Reduction Act of 2009".

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

1 (1) The United States faces significant risks
2 from many types of natural hazards, including
3 earthquakes, hurricanes, tornadoes, wildfires, and
4 floods. Increasing numbers of Americans are living
5 in areas prone to these hazards.

6 (2) Earthquakes occur without warning and can
7 have devastating effects. According to the U.S. Geo-
8 logical Survey, two recent earthquakes, the
9 Northridge Earthquake in 1994, and the Loma
10 Prieta Earthquake in 1989, killed nearly 100 people,
11 injured 12,757, and caused \$33 billion in damages.
12 Nearly all States face some level of seismic risk.
13 Twenty-six urban areas in 14 States have a signifi-
14 cant seismic risk.

15 (3) Severe weather is the most costly natural
16 hazard, measured on a per year basis. According to
17 data from the National Weather Service over the
18 last 10 years, tornadoes, thunderstorms, and hurri-
19 canes have caused an average of 226 fatalities and
20 \$16 billion of property damage per year. The 2005
21 hurricane season was one of the most destructive in
22 United States history, killing 1,836 people, and
23 causing \$80 billion in damage.

24 (4) The United States Fire Administration re-
25 ports that 38 percent of new home construction in

1 2002 was in areas adjacent to, or intermixed with,
2 wildlands. Fires in the wildland-urban interface are
3 costly. For example, the 2007 California Witch fire
4 alone caused \$1.3 billion in insured property losses,
5 according to the Insurance Services Office (ISO). In
6 addition, Government Accountability Office reported
7 in 2007 that the Federal spending for wildfire sup-
8 pression between 2001 and 2005 was, on average,
9 \$2.9 billion per year.

10 (5) Developing better knowledge about natural
11 hazard phenomena and their effects is crucial to as-
12 sessing the risks these hazards pose to communities.
13 Instrumentation, monitoring, and data gathering to
14 characterize earthquakes and wind events are impor-
15 tant activities to increase this knowledge.

16 (6) Current building codes and standards can
17 mitigate the damages caused by natural hazards.
18 The Institute for Business and Home Safety esti-
19 mated that the \$19 billion in damage caused by
20 Hurricane Andrew in 1994 could have been reduced
21 by half if such codes and standards were in effect.
22 Research for the continuous improvement of building
23 codes, standards, and design practices—and for de-
24 veloping methods to retrofit existing structures—is
25 crucial to mitigating losses from natural hazards.

1 (7) Since its creation in 1977, the National
2 Earthquake Hazards Reduction Program (NEHRP)
3 has supported research to develop seismic codes,
4 standards, and building practices that have been
5 widely adopted. The NEHRP Recommended Provi-
6 sions for Seismic Regulations for New Buildings and
7 Other Structures and the Guidance for Seismic Per-
8 formance Assessment of Buildings are two examples.

9 (8) Research to understand the institutional,
10 social, behavioral, and economic factors that influ-
11 ence how households, businesses, and communities
12 perceive risk and prepare for natural hazards, and
13 how well they recover after a disaster, can increase
14 the implementation of risk mitigation measures.

15 (9) A major goal of the Federal natural haz-
16 ards-related research and development effort should
17 be to reduce the loss of life and damage to commu-
18 nities and infrastructure through increasing the
19 adoption of hazard mitigation measures.

20 (10) Research, development, and technology
21 transfer to secure infrastructure is vitally important.
22 Infrastructure that supports electricity, transpor-
23 tation, drinking water, and other services is vital im-
24 mediately after a disaster, and their quick return to

1 function speeds the economic recovery of a disaster-
2 impacted community.

3 **TITLE I—EARTHQUAKES**

4 **SEC. 101. SHORT TITLE.**

5 This title may be cited as the “National Earthquake
6 Hazards Reduction Program Reauthorization Act of
7 2009”.

8 **SEC. 102. FINDINGS.**

9 Section 2 of the Earthquake Hazards Reduction Act
10 of 1977 (42 U.S.C. 7701) is repealed.

11 **SEC. 103. DEFINITIONS.**

12 Section 4 of the National Earthquake Hazards Re-
13 duction Act of 1977 (42 U.S.C. 7703) is amended by
14 striking paragraphs (8) and (9).

15 **SEC. 104. NATIONAL EARTHQUAKE HAZARDS REDUCTION**
16 **PROGRAM.**

17 Section 5 of the National Earthquake Hazards Re-
18 duction Act of 1977 (42 U.S.C. 7704) is amended—

19 (1) in subsection (a)—

20 (A) by amending paragraph (2) to read as
21 follows:

22 “(2) PROGRAM ACTIVITIES.—The activities of
23 the Program shall be designed to—

24 “(A) research and develop effective meth-
25 ods, tools, and technologies to reduce the risk

1 posed by earthquakes to the built environment,
2 especially to lessen the risk to existing struc-
3 tures and lifelines;

4 “(B) improve the understanding of earth-
5 quakes and their effects on households, busi-
6 nesses, communities, buildings, structures, and
7 lifelines, through interdisciplinary and multi-
8 disciplinary research that involves engineering,
9 natural sciences, and social sciences; and

10 “(C) facilitate the adoption of earthquake
11 risk reduction measures by households, busi-
12 nesses, communities, local, State, and Federal
13 governments, national standards and model
14 building code organizations, architects and engi-
15 neers, building owners, and others with a role
16 in planning for disasters and planning, con-
17 structing, retrofitting, and insuring buildings,
18 structures, and lifelines through—

19 “(i) grants, contracts, cooperative
20 agreements, and technical assistance;

21 “(ii) development of standards, guide-
22 lines, voluntary consensus standards, and
23 other design guidance for earthquake haz-
24 ards risk reduction for buildings, struc-
25 tures, and lifelines;

1 “(iii) outreach and information dis-
2 semination to communities on location-spe-
3 cific earthquake hazards and methods to
4 reduce the risks from those hazards; and

5 “(iv) development and maintenance of
6 a repository of information, including tech-
7 nical data, on seismic risk and hazards re-
8 duction.”; and

9 (B) by striking paragraphs (3) through
10 (5);

11 (2) by amending subsection (b) to read as fol-
12 lows:

13 “(b) RESPONSIBILITIES OF PROGRAM AGENCIES.—

14 “(1) LEAD AGENCY.—The National Institute of
15 Standards and Technology (in this section referred
16 to as the ‘Institute’) shall be responsible for plan-
17 ning and coordinating the Program. In carrying out
18 this paragraph, the Director of the Institute shall—

19 “(A) ensure that the Program includes the
20 necessary components to promote the imple-
21 mentation of earthquake hazards risk reduction
22 measures by households, businesses, commu-
23 nities, local, State, and Federal governments,
24 national standards and model building code or-
25 ganizations, architects and engineers, building

1 owners, and others with a role in preparing for
2 disasters, or the planning, constructing, retro-
3 fitting, and insuring of buildings, structures,
4 and lifelines;

5 “(B) support the development of perform-
6 ance-based seismic engineering tools, and work
7 with the appropriate groups to promote the
8 commercial application of such tools, through
9 earthquake-related building codes, standards,
10 and construction practices;

11 “(C) ensure the use of social science re-
12 search and findings in informing research and
13 technology development priorities, commu-
14 nicating earthquake risks to the public, devel-
15 oping earthquake risk mitigation strategies, and
16 preparing for earthquake disasters;

17 “(D) coordinate all Federal post-earth-
18 quake investigations; and

19 “(E) when warranted by research or inves-
20 tigative findings, issue recommendations for
21 changes in model codes to the relevant code de-
22 velopment organizations, and report back to
23 Congress on whether such recommendations
24 were adopted.

1 “(2) NATIONAL INSTITUTE OF STANDARDS AND
2 TECHNOLOGY.—In addition to the lead agency re-
3 sponsibilities described under paragraph (1), the In-
4 stitute shall be responsible for carrying out research
5 and development to improve building codes and
6 standards and practices for buildings, structures,
7 and lifelines. In carrying out this paragraph, the Di-
8 rector of the Institute shall—

9 “(A) work, in conjunction with other ap-
10 propriate Federal agencies, to support the de-
11 velopment of improved seismic standards and
12 model codes;

13 “(B) in coordination with other appro-
14 priate Federal agencies, work closely with
15 standards and model code development organi-
16 zations, professional societies, and practicing
17 engineers, architects, and others involved in the
18 construction of buildings, structures, and life-
19 lines, to promote better building practices, in-
20 cluding by—

21 “(i) developing technical resources for
22 practitioners on new knowledge and stand-
23 ards of practice; and

24 “(ii) developing methods and tools to
25 facilitate the incorporation of earthquake

1 engineering principles into design and con-
2 struction practices;

3 “(C) develop tools, technologies, methods,
4 and practitioner guidance to feasibly and cost-
5 effectively retrofit existing buildings and struc-
6 tures to increase their earthquake resiliency;
7 and

8 “(D) work closely with national standards
9 organizations, and other interested parties, to
10 develop seismic safety standards and practices
11 for new and existing lifelines.

12 “(3) FEDERAL EMERGENCY MANAGEMENT
13 AGENCY.—

14 “(A) IN GENERAL.—The Federal Emer-
15 gency Management Agency (in this paragraph
16 referred to as the ‘Agency’) shall be responsible
17 for facilitating the development and adoption of
18 standards, model building codes, and better
19 seismic building practices, developing tools to
20 assess earthquake hazards, promoting the adop-
21 tion of hazard mitigation measures, and car-
22 rying out a program of direct assistance to
23 States and localities to mitigate earthquake
24 risks to buildings, structures, lifelines, and com-
25 munities.

1 “(B) DIRECTOR’S DUTIES.—The Director
2 of the Agency shall—

3 “(i) work closely with other relevant
4 Federal agencies, standards and model
5 building code development organizations,
6 architects, engineers, and other profes-
7 sionals, to facilitate the development and
8 adoption of standards, model codes, and
9 design and construction practices to in-
10 crease the earthquake resiliency of new
11 and existing buildings, structures, and life-
12 lines in the—

13 “(I) preparation, maintenance,
14 and wide dissemination of design
15 guidance, model building codes and
16 standards, and practices to increase
17 the earthquake resiliency of new and
18 existing buildings, structures, and life-
19 lines;

20 “(II) development of perform-
21 ance-based design guidelines and
22 methodologies supporting model codes
23 for buildings, structures, and lifelines;
24 and

1 “(III) development of methods
2 and tools to facilitate the incorpora-
3 tion of earthquake engineering prin-
4 ciples into design and construction
5 practices;

6 “(ii) develop tools, technologies, and
7 methods to assist local planners, and oth-
8 ers, to model and predict the potential im-
9 pact of earthquake damage in seismically
10 hazardous areas; and

11 “(iii) support the implementation of a
12 comprehensive earthquake education and
13 public awareness program, including the
14 development of materials and their wide
15 dissemination to all appropriate audiences,
16 and support public access to locality-spe-
17 cific information that may assist the public
18 in preparing for, mitigating against, re-
19 sponding to, and recovering from earth-
20 quakes and related disasters.

21 “(C) STATE ASSISTANCE GRANT PRO-
22 GRAM.—The Director of the Agency shall oper-
23 ate a program of grants and assistance to en-
24 able States to develop mitigation, preparedness,
25 and response plans, compare inventories and

1 conduct seismic safety inspections of critical
2 structures and lifelines, update building and
3 zoning codes and ordinances to enhance seismic
4 safety, increase earthquake awareness and edu-
5 cation, and encourage the development of
6 multistate groups for such purposes. In order to
7 qualify for assistance under this subparagraph,
8 a State must—

9 “(i) demonstrate that the assistance
10 will result in enhanced seismic safety in
11 the State;

12 “(ii) provide 50 percent of the costs of
13 the activities for which assistance is being
14 given, except that the Director may lower
15 or waive the cost-share requirement for
16 these activities in exceptional cases of eco-
17 nomic hardship; and

18 “(iii) meet such other requirements as
19 the Director of the Agency shall prescribe.

20 “(4) UNITED STATES GEOLOGICAL SURVEY.—
21 The United States Geological Survey (in this para-
22 graph referred to as the ‘Survey’) shall conduct re-
23 search and other activities necessary to characterize
24 and identify earthquake hazards, assess earthquake
25 risks, monitor seismic activity, and provide real-time

1 earthquake information. In carrying out this para-
2 graph, the Director of the Survey shall—

3 “(A) conduct a systematic assessment of
4 the seismic risks in each region of the Nation
5 prone to earthquakes, including, where appro-
6 priate, the establishment and operation of in-
7 tensive monitoring projects on hazardous faults,
8 detailed seismic hazard and risk studies in
9 urban and other developed areas where earth-
10 quake risk is determined to be significant, and
11 engineering seismology studies;

12 “(B) work with officials of State and local
13 governments to ensure that they are knowledge-
14 able about the specific seismic risks in their
15 areas;

16 “(C) develop standard procedures, in con-
17 sultation with the Director of the Federal
18 Emergency Management Agency, for issuing
19 earthquake alerts, including aftershock
20 advisories;

21 “(D) issue when justified, and notify the
22 Director of the Federal Emergency Manage-
23 ment Agency of, an earthquake prediction or
24 other earthquake advisory, which may be evalu-

1 ated by the National Earthquake Prediction
2 Evaluation Council;

3 “(E) operate, as integral parts of the Ad-
4 vanced National Seismic Research and Moni-
5 toring System, a National Earthquake Informa-
6 tion Center and a national seismic network, to-
7 gether providing timely and accurate informa-
8 tion on earthquakes world-wide;

9 “(F) support the operation of regional seis-
10 mic networks in areas of higher seismic risk;

11 “(G) develop and support seismic instru-
12 mentation of buildings and other structures to
13 obtain data on their response to earthquakes
14 for use in engineering studies and assessment
15 of damage;

16 “(H) monitor and assess Earth surface de-
17 formation as it pertains to the evaluation of
18 earthquake hazards and impacts;

19 “(I) work with other Program agencies to
20 maintain awareness of, and where appropriate
21 cooperate with, earthquake risk reduction ef-
22 forts in other countries, to ensure that the Pro-
23 gram benefits from relevant information and
24 advances in those countries;

1 “(J) maintain suitable seismic hazard
2 maps in support of building codes for structures
3 and lifelines, including additional maps needed
4 for performance-based design approaches;

5 “(K) conduct a competitive, peer-reviewed
6 process which awards grants and cooperative
7 agreements to complement and extend related
8 internal Survey research and monitoring activi-
9 ties; and

10 “(L) operate, in cooperation with the Na-
11 tional Science Foundation, a Global Seis-
12 mographic Network for detection of earth-
13 quakes around the world and research into fun-
14 damental earth processes.

15 “(5) NATIONAL SCIENCE FOUNDATION.—The
16 National Science Foundation shall be responsible for
17 funding basic research that furthers the under-
18 standing of earthquakes, earthquake engineering,
19 and community preparation and response to earth-
20 quakes. In carrying out this paragraph, the Director
21 of the National Science Foundation shall—

22 “(A) support multidisciplinary and inter-
23 disciplinary research that will improve the resil-
24 iency of communities to earthquakes, includ-
25 ing—

1 “(i) research that improves the safety
2 and performance of buildings, structures,
3 and lifelines, including the use of the large-
4 scale experimental and computational fa-
5 cilities of the George E. Brown, Jr. Net-
6 work for Engineering Earthquake Simula-
7 tion;

8 “(ii) research to support more effec-
9 tive earthquake mitigation and response
10 measures, such as developing better knowl-
11 edge of the specific types of vulnerabilities
12 faced by population groups and economic
13 sectors vulnerable to earthquakes, address-
14 ing the barriers they face in adopting miti-
15 gation and preparation measures, and de-
16 veloping methods to better communicate
17 the risks of earthquakes and to promote
18 mitigation; and

19 “(iii) research on the response of com-
20 munities, households, businesses, and
21 emergency responders to earthquakes;

22 “(B) support research to understand
23 earthquake processes, earthquake patterns, and
24 earthquake frequencies;

1 “(C) encourage prompt dissemination of
2 significant findings, sharing of data, samples,
3 physical collections, and other supporting mate-
4 rials, and development of intellectual property
5 so research results can be used by appropriate
6 organizations to mitigate earthquake damage;

7 “(D) work with other Program agencies to
8 maintain awareness of, and where appropriate
9 cooperate with, earthquake risk reduction re-
10 search efforts in other countries, to ensure that
11 the Program benefits from relevant information
12 and advances in those countries; and

13 “(E) include to the maximum extent prac-
14 ticable diverse institutions, including Histori-
15 cally Black Colleges and Universities, Hispanic-
16 serving institutions, Tribal Colleges and Univer-
17 sities, Alaska Native-serving institutions, and
18 Native Hawaiian-serving institutions.”; and

19 (3) in subsection (c)(1) by inserting “on Nat-
20 ural Hazards Risk Reduction established under sec-
21 tion 301 of the Natural Hazards Risk Reduction Act
22 of 2009” after “Interagency Coordinating Com-
23 mittee”.

1 **SEC. 105. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.**

2 Section 11 of the Earthquake Hazards Reduction Act
3 of 1977 (42 U.S.C. 7705e) is amended by striking “There
4 is established” and all that follows through “conduct of
5 such earthquake investigations.” and inserting “The Pro-
6 gram shall include a post-earthquake investigations pro-
7 gram, the purpose of which is to investigate major earth-
8 quakes so as to learn lessons which can be applied to re-
9 duce the loss of lives and property in future earthquakes.
10 The lead Program agency, in consultation with each Pro-
11 gram agency, shall organize investigations to study the im-
12 plications of the earthquakes in the areas of responsibility
13 of each Program agency. The investigations shall begin
14 as rapidly as possible and may be conducted by grantees
15 and contractors. The Program agencies shall ensure that
16 the results of the investigations are disseminated widely.”.

17 **SEC. 106. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) IN GENERAL.—Section 12 of the Earthquake
19 Hazards Reduction Act of 1977 (42 U.S.C. 7706) is
20 amended—

21 (1) by adding at the end of subsection (a) the
22 following:

23 “(9) There are authorized to be appropriated to the
24 Federal Emergency Management Agency for carrying out
25 this Act—

26 “(A) \$10,238,000 for fiscal year 2010;

1 “(B) \$10,545,000 for fiscal year 2011;

2 “(C) \$10,861,000 for fiscal year 2012;

3 “(D) \$11,187,000 for fiscal year 2013; and

4 “(E) \$11,523,000 for fiscal year 2014.”;

5 (2) by adding at the end of subsection (b) the
6 following:

7 “(3) There are authorized to be appropriated to the
8 United States Geological Survey for carrying out this Act,
9 including the Advanced National Seismic Research and
10 Monitoring System—

11 “(A) \$70,000,000 for fiscal year 2010;

12 “(B) \$72,100,000 for fiscal year 2011;

13 “(C) \$74,263,000 for fiscal year 2012;

14 “(D) \$76,491,000 for fiscal year 2013; and

15 “(E) \$78,786,000 for fiscal year 2014.”;

16 (3) by adding at the end of subsection (c) the
17 following:

18 “(3) There are authorized to be appropriated to the
19 National Science Foundation for carrying out this Act—

20 “(A) \$64,125,000 for fiscal year 2010;

21 “(B) \$66,049,000 for fiscal year 2011;

22 “(C) \$68,030,000 for fiscal year 2012;

23 “(D) \$70,071,000 for fiscal year 2013; and

24 “(E) \$72,173,000 for fiscal year 2014.”; and

1 (4) by adding at the end of subsection (d) the
2 following:

3 “(3) There are authorized to be appropriated to the
4 National Institute of Standards and Technology for car-
5 rying out this Act—

6 “(A) \$7,000,000 for fiscal year 2010;

7 “(B) \$7,700,000 for fiscal year 2011;

8 “(C) \$7,931,000 for fiscal year 2012;

9 “(D) \$8,169,000 for fiscal year 2013; and

10 “(E) \$8,414,000 for fiscal year 2014.”.

11 (b) CONFORMING AMENDMENT.—Section 14(b) of
12 the National Earthquake Hazards Reduction Act of 1977
13 (42 U.S.C. 7708(b)) is repealed.

14 **TITLE II—WIND**

15 **SEC. 201. SHORT TITLE.**

16 This title may be cited as the “National Windstorm
17 Impact Reduction Act Reauthorization of 2009”.

18 **SEC. 202. PURPOSE.**

19 Section 202 of the National Windstorm Impact Re-
20 duction Act of 2004 (42 U.S.C. 15701) is amended to
21 read as follows:

22 **“SEC. 202. PURPOSE.**

23 “It is the purpose of the Congress in this title to
24 achieve a major measurable reduction in losses of life and
25 property from windstorms through the establishment and

1 maintenance of an effective Windstorm Impact Reduction
2 Program. The objectives of such Program shall include—

3 “(1) the education of households, businesses,
4 and communities about the risks posed by wind-
5 storms, and the identification of locations, struc-
6 tures, lifelines, and segments of the community
7 which are especially vulnerable to windstorm damage
8 and disruption, and the dissemination of information
9 on methods to reduce those risks;

10 “(2) the development of technologically and eco-
11 nomically feasible design and construction methods
12 and procedures to make new and existing structures,
13 in areas of windstorm risk, windstorm resilient, giv-
14 ing high priority to the development of such methods
15 and procedures for lifelines, structures associated
16 with a potential high loss of life, and structures that
17 are especially needed in times of disasters, such as
18 hospitals and public safety and shelter facilities;

19 “(3) the implementation, in areas of major
20 windstorm risk, of instrumentation to record and
21 gather data on windstorms and the characteristics of
22 the wind during those events, and continued re-
23 search to increase the understanding of windstorm
24 phenomena;

1 **“SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION**
2 **PROGRAM.**

3 “(a) ESTABLISHMENT.—There is established the Na-
4 tional Windstorm Impact Reduction Program.

5 “(b) PROGRAM ACTIVITIES.—The activities of the
6 Program shall be designed to—

7 “(1) research and develop cost-effective, feasible
8 methods, tools, and technologies to reduce the risks
9 posed by windstorms to the built environment, espe-
10 cially to lessen the risk to existing structures and
11 lifelines;

12 “(2) improve the understanding of windstorms
13 and their impacts on households, businesses, com-
14 munities, buildings, structures, and lifelines, through
15 interdisciplinary and multidisciplinary research that
16 involves engineering, natural sciences, and social
17 sciences; and

18 “(3) facilitate the adoption of windstorm risk
19 reduction measures by households, businesses, com-
20 munities, local, State and Federal governments, na-
21 tional standards and model building code organiza-
22 tions, architects and engineers, building owners, and
23 others with a role in planning for disasters and plan-
24 ning, constructing, retrofitting, and insuring build-
25 ings, structures, and lifelines through—

1 “(A) grants, contracts, cooperative agree-
2 ments, and technical assistance;

3 “(B) development of hazard maps, stand-
4 ards, guidelines, voluntary consensus standards,
5 and other design guidance for windstorm risk
6 reduction for buildings, structures, and lifelines;

7 “(C) outreach and information dissemina-
8 tion to communities on site specific windstorm
9 hazards and ways to reduce the risks from
10 those hazards; and

11 “(D) development and maintenance of a
12 repository of information, including technical
13 data, on windstorm hazards and risk reduction;

14 “(c) RESPONSIBILITIES OF PROGRAM AGENCIES.—

15 “(1) LEAD AGENCY.—The National Institute of
16 Standards and Technology (in this section referred
17 to as the ‘Institute’) shall be responsible for plan-
18 ning and coordinating the Program. In carrying out
19 this paragraph, the Director of the Institute shall—

20 “(A) ensure that the Program includes the
21 necessary components to promote the imple-
22 mentation of windstorm risk reduction meas-
23 ures by households, businesses, communities,
24 local, State, and Federal governments, national
25 standards and model building code organiza-

1 tions, architects and engineers, building owners,
2 and others with a role in planning and pre-
3 paring for disasters, and planning constructing,
4 and retrofitting, and insuring buildings, struc-
5 tures, and lifelines;

6 “(B) support the development of perform-
7 ance-based engineering tools, and work with the
8 appropriate groups to promote the commercial
9 application of such tools, through wind-related
10 building codes, standards, and construction
11 practices;

12 “(C) ensure the use of social science re-
13 search and findings in informing the develop-
14 ment of technology and research priorities, in
15 communicating windstorm risks to the public,
16 in developing windstorm risk mitigation strate-
17 gies, and in preparing for windstorm disasters;

18 “(D) coordinate all Federal post-windstorm
19 investigations; and

20 “(E) when warranted by research or inves-
21 tigative findings, issue recommendations for
22 changes in model codes to the relevant code de-
23 velopment organizations, and report back to
24 Congress on whether such recommendations
25 were adopted.

1 “(2) NATIONAL INSTITUTE OF STANDARDS AND
2 TECHNOLOGY.—In addition to the lead agency re-
3 sponsibilities described under paragraph (1), the In-
4 stitute shall be responsible for carrying out research
5 and development to improve model codes, standards,
6 design guidance and practices for the construction
7 and retrofit of buildings, structures, and lifelines. In
8 carrying out this paragraph, the Director of the In-
9 stitute shall—

10 “(A) support the development of instru-
11 mentation, data processing, and archival capa-
12 bilities, and standards for the instrumentation
13 and its deployment, to measure wind, wind
14 loading, and other properties of severe wind and
15 structure response;

16 “(B) coordinate with other appropriate
17 Federal agencies to make the data described in
18 subparagraph (A) available to researchers,
19 standards and code developers, and local plan-
20 ners;

21 “(C) support the development of tools and
22 methods for the collection of data on the loss of
23 and damage to structures, and data on sur-
24 viving structures after severe windstorm events;

1 “(D) improve the knowledge of the impact
2 of severe wind on buildings, structures, lifelines,
3 and communities;

4 “(E) develop cost-effective windstorm im-
5 pact reduction tools, methods, and technologies;

6 “(F) work, in conjunction with other ap-
7 propriate Federal agencies, to support the de-
8 velopment of wind standards and model codes;
9 and

10 “(G) in conjunction with other appropriate
11 Federal agencies, work closely with standards
12 and model code development organizations, pro-
13 fessional societies, and practicing engineers, ar-
14 chitects, and others involved in the construction
15 of buildings, structures, and lifelines, to pro-
16 mote better building practices, including by—

17 “(i) supporting the development of
18 technical resources for practitioners to im-
19 plement new knowledge; and

20 “(ii) supporting the development of
21 methods and tools to incorporate wind en-
22 gineering principles into design and con-
23 struction practices.

24 “(3) FEDERAL EMERGENCY MANAGEMENT
25 AGENCY.—The Federal Emergency Management

1 Agency shall support the development of risk assess-
2 ment tools and effective mitigation techniques, assist
3 with windstorm-related data collection and analysis,
4 and support outreach, information dissemination,
5 and implementation of windstorm preparedness and
6 mitigation measures by households, businesses, and
7 communities, including by—

8 “(A) working to develop or improve risk-
9 assessment tools, methods, and models;

10 “(B) work closely with other appropriate
11 Federal agencies to develop and facilitate the
12 adoption of windstorm impact reduction meas-
13 ures, including by—

14 “(i) developing cost-effective retrofit
15 measures for existing buildings, structures,
16 and lifelines to improve windstorm per-
17 formance;

18 “(ii) developing methods, tools, and
19 technologies to improve the planning, de-
20 sign, and construction of new buildings,
21 structures, and lifelines;

22 “(iii) supporting the development of
23 model wind codes and standards for build-
24 ings, structures, and lifelines; and

1 “(iv) developing technical resources
2 for practitioners that reflect new knowl-
3 edge and standards of practice; and

4 “(C) develop and disseminate guidelines
5 for the construction of windstorm shelters.

6 “(4) NATIONAL OCEANIC AND ATMOSPHERIC
7 ADMINISTRATION.—The National Oceanic and At-
8 mospheric Administration shall support atmospheric
9 sciences research and data collection to improve the
10 understanding of the behavior of windstorms and
11 their impact on buildings, structures, and lifelines,
12 including by—

13 “(A) working with other appropriate Fed-
14 eral agencies to develop and deploy instrumen-
15 tation to measure speed and other characteris-
16 tics of wind, and to collect, analyze, and make
17 available such data;

18 “(B) working with officials of State and
19 local governments to ensure that they are
20 knowledgeable about, and prepared for, the spe-
21 cific windstorm risks in their area;

22 “(C) maintaining suitable wind speed maps
23 in support of standards for codes for buildings,
24 structures, and lifelines;

1 “(D) conducting a competitive, peer-re-
2 viewed process which awards grants and cooper-
3 ative agreements to complement the National
4 Oceanic and Atmospheric Administration’s
5 wind-related research and data collection activi-
6 ties; and

7 “(E) working with other appropriate Fed-
8 eral agencies to develop or improve risk-assess-
9 ment tools, methods, and models.

10 “(5) NATIONAL SCIENCE FOUNDATION.—The
11 National Science Foundation shall be responsible for
12 funding basic research that furthers the under-
13 standing of windstorms, wind engineering, and com-
14 munity preparation and response to windstorms. In
15 carrying out this paragraph, the Director of the Na-
16 tional Science Foundation shall—

17 “(A) support multidisciplinary and inter-
18 disciplinary research that will improve the resil-
19 iency of communities to windstorms, includ-
20 ing—

21 “(i) research that improves the safety
22 and performance of buildings, structures,
23 and lifelines;

24 “(ii) research to support more effec-
25 tive windstorm mitigation and response

1 measures, such as developing better knowl-
2 edge of the specific types of vulnerabilities
3 faced by population groups and economic
4 sectors vulnerable to windstorms, address-
5 ing the barriers they face in adopting miti-
6 gation and preparation measures, and de-
7 veloping methods to better communicate
8 the risks of windstorms and to promote
9 mitigation; and

10 “(iii) research on the response of com-
11 munities to windstorms, including on the
12 effectiveness of the emergency response,
13 and the recovery process of communities,
14 households, and businesses;

15 “(B) support research to understand wind-
16 storm processes, windstorm patterns, and wind-
17 storm frequencies;

18 “(C) encourage prompt dissemination of
19 significant findings, sharing of data, samples,
20 physical collections, and other supporting mate-
21 rials, and development of intellectual property
22 so research results can be used by appropriate
23 organizations to mitigate windstorm damage;

24 “(D) work with other Program agencies to
25 maintain awareness of, and where appropriate

1 cooperate with, windstorm risk reduction re-
2 search efforts in other countries, to ensure that
3 the Program benefits from relevant information
4 and advances in those countries; and

5 “(E) include to the maximum extent prac-
6 ticable diverse institutions, including Histori-
7 cally Black Colleges and Universities, Hispanic-
8 serving institutions, Tribal Colleges and Univer-
9 sities, Alaska Native-serving institutions, and
10 Native Hawaiian-serving institutions.”.

11 **SEC. 205. AUTHORIZATION OF APPROPRIATIONS.**

12 Section 207 of the National Windstorm Impact Re-
13 duction Program of 2004 (42 U.S.C. 15706) is amended
14 to read as follows:

15 **“SEC. 207. AUTHORIZATION OF APPROPRIATIONS.**

16 “(a) FEDERAL EMERGENCY MANAGEMENT AGEN-
17 CY.—There are authorized to be appropriated to the Fed-
18 eral Emergency Management Agency for carrying out this
19 title—

20 “(1) \$9,682,000 for fiscal year 2010;

21 “(2) \$9,972,500 for fiscal year 2011;

22 “(3) \$10,271,600 for fiscal year 2012;

23 “(4) \$10,579,800 for fiscal year 2013; and

24 “(5) \$10,897,200 for fiscal year 2014.

1 “(b) NATIONAL SCIENCE FOUNDATION.—There are
2 authorized to be appropriated to the National Science
3 Foundation for carrying out this title—

4 “(1) \$9,682,000 for fiscal year 2010;

5 “(2) \$9,972,500 for fiscal year 2011;

6 “(3) \$10,271,600 for fiscal year 2012;

7 “(4) \$10,579,800 for fiscal year 2013; and

8 “(5) \$10,897,200 for fiscal year 2014.

9 “(c) NATIONAL INSTITUTE OF STANDARDS AND
10 TECHNOLOGY.—There are authorized to be appropriated
11 to the National Institute of Standards and Technology for
12 carrying out this title—

13 “(1) \$4,120,000 for fiscal year 2010;

14 “(2) \$4,243,600 for fiscal year 2011;

15 “(3) \$4,370,900 for fiscal year 2012;

16 “(4) \$4,502,000 for fiscal year 2013; and

17 “(5) \$4,637,100 for fiscal year 2014.

18 “(d) NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-
19 ISTRATION.—There are authorized to be appropriated to
20 the National Oceanic and Atmospheric Administration for
21 carrying out this title—

22 “(1) \$2,266,000 for fiscal year 2010;

23 “(2) \$2,334,000 for fiscal year 2011;

24 “(3) \$2,404,000 for fiscal year 2012;

25 “(4) \$2,476,100 for fiscal year 2013; and

1 “(5) \$2,550,400 for fiscal year 2014.”.

2 **TITLE III—INTERAGENCY CO-**
3 **ORDINATING COMMITTEE ON**
4 **NATURAL HAZARDS RISK RE-**
5 **DUCTION**

6 **SEC. 301. INTERAGENCY COORDINATING COMMITTEE ON**
7 **NATURAL HAZARDS RISK REDUCTION.**

8 (a) IN GENERAL.—There is established an Inter-
9 agency Coordinating Committee on Natural Hazards Risk
10 Reduction, chaired by the Director of the National Insti-
11 tute of Standards and Technology.

12 (1) MEMBERSHIP.—In addition to the chair,
13 the Committee shall be composed of—

14 (A) the directors of—

15 (i) the Federal Emergency Manage-
16 ment Agency;

17 (ii) the United State Geological Sur-
18 vey;

19 (iii) the National Oceanic and Atmos-
20 pheric Administration;

21 (iv) the National Science Foundation;

22 (v) the Office of Science and Tech-
23 nology Policy; and

24 (vi) the Office of Management and
25 Budget; and

1 (B) the head of any other Federal agency
2 the Committee considers appropriate.

3 (2) MEETINGS.—The Committee shall not meet
4 less than 2 times a year at the call of the Director
5 of the National Institute of Standards and Tech-
6 nology.

7 (3) GENERAL PURPOSE AND DUTIES.—The
8 Committee shall oversee the planning and coordina-
9 tion of the National Earthquake Hazards Reduction
10 Program and the National Windstorm Impact Re-
11 duction Program, and shall make proposals for plan-
12 ning and coordination of any other Federal research
13 for natural hazard mitigation that the Committee
14 considers appropriate.

15 (4) STRATEGIC PLANS.—The Committee
16 shall—

17 (A) develop and submit to Congress, not
18 later than one year after the date of enactment
19 of this Act—

20 (i) a Strategic Plan for the National
21 Earthquake Hazards Reduction Program
22 that includes—

23 (I) prioritized goals for such Pro-
24 gram that will mitigate against the

1 loss of life and property from future
2 earthquakes;

3 (II) short-term, mid-term, and
4 long-term research objectives to
5 achieve those goals;

6 (III) a description of the role of
7 each Program agency in achieving the
8 prioritized goals;

9 (IV) the methods by which
10 progress towards the goals will be as-
11 sessed;

12 (V) an explanation of how the
13 Program will foster the transfer of re-
14 search results onto outcomes, such as
15 improved building codes;

16 (VI) a description of the role of
17 social science in informing the devel-
18 opment of the prioritized goals and re-
19 search objectives; and

20 (VII) a description of how the
21 George E. Brown, Jr. Network for
22 Earthquake Engineering Simulation
23 and the Advanced National Seismic
24 Research and Monitoring System will

1 be used in achieving the prioritized
2 goals and research objectives; and

3 (ii) a Strategic Plan for the National
4 Windstorm Impact Reduction Program
5 that includes—

6 (I) prioritized goals for such Pro-
7 gram that will mitigate against the
8 loss of life and property from future
9 windstorms;

10 (II) short-term, mid-term, and
11 long-term research objectives to
12 achieve those goals;

13 (III) a description of the role of
14 each Program agency in achieving the
15 prioritized goals;

16 (IV) the methods by which
17 progress towards the goals will be as-
18 sessed;

19 (V) an explanation of how the
20 Program will foster the transfer of re-
21 search results onto outcomes, such as
22 improved building codes; and

23 (VI) a description of the role of
24 social science in informing the devel-

1 opment of the prioritized goals and re-
2 search objectives.

3 (5) PROGRESS REPORTS.—Not later than one
4 year after the date of enactment of this Act, and at
5 least once every two years thereafter, the Committee
6 shall submit to the Congress—

7 (A) a report on the progress of the Na-
8 tional Earthquake Hazards Reduction Program
9 that includes—

10 (i) a description of the activities fund-
11 ed for the previous two years of the Pro-
12 gram, a description of how these activities
13 align with the prioritized goals and re-
14 search objectives established in the Stra-
15 tegic Plan, and the budgets, per agency,
16 for these activities;

17 (ii) the outcomes achieved by the Pro-
18 gram for each of the goals identified in the
19 Strategic Plan;

20 (iii) a description of any recommenda-
21 tions made to change existing building
22 codes that were the result of Program ac-
23 tivities; and

24 (iv) a description of the extent to
25 which the Program has incorporated rec-

1 ommendations from the Advisory Com-
2 mittee on Earthquake Hazards Reduction;
3 and

4 (B) a report on the progress of the Na-
5 tional Windstorm Impact Reduction Program
6 that includes—

7 (i) a description of the activities fund-
8 ed for the previous two years of the Pro-
9 gram, a description of how these activities
10 align with the prioritized goals and re-
11 search objectives established in the Stra-
12 tegic Plan, and the budgets, per agency,
13 for these activities;

14 (ii) the outcomes achieved by the Pro-
15 gram for each of the goals identified in the
16 Strategic Plan;

17 (iii) a description of any recommenda-
18 tions made to change existing building
19 codes that were the result of Program ac-
20 tivities; and

21 (iv) a description of the extent to
22 which the Program has incorporated rec-
23 ommendations from the Advisory Com-
24 mittee on Windstorm Impact Reduction.

1 (6) COORDINATED BUDGET.—The Committee
2 shall develop a coordinated budget for the National
3 Earthquake Hazards Reduction Program and a co-
4 ordinated budget for the National Windstorm Im-
5 pact Reduction Program. These budgets shall be
6 submitted to the Congress at the time of the Presi-
7 dent’s budget submission for each fiscal year.

8 (b) ADVISORY COMMITTEES ON NATURAL HAZARDS
9 REDUCTION.—

10 (1) IN GENERAL.—The Director of the National
11 Institute of Standards and Technology shall estab-
12 lish an Advisory Committee on Earthquake Hazards
13 Reduction, an Advisory Committee on Windstorm
14 Impact Reduction, and other such advisory commit-
15 tees as the Director considers necessary to advise
16 the Institute on research, development, and tech-
17 nology transfer activities to mitigate the impact of
18 natural disasters.

19 (2) ADVISORY COMMITTEE ON EARTHQUAKE
20 HAZARDS REDUCTION.—The Advisory Committee on
21 Earthquake Hazards Reduction shall be composed of
22 at least 11 members, none of whom may be employ-
23 ees of the Federal Government, including represent-
24 atives of research and academic institutions, indus-
25 try standards development organizations, State and

1 local government, and business communities who are
2 qualified to provide advice on earthquake hazards re-
3 duction and represent all related scientific, architec-
4 tural, and engineering disciplines. The recommenda-
5 tions of the Advisory Committee shall be considered
6 by Federal agencies in implementing the National
7 Earthquake Hazards Reduction Program.

8 (3) ADVISORY COMMITTEE ON WINDSTORM IM-
9 PACT REDUCTION.—The Advisory Committee on
10 Windstorm Impact Reduction shall be composed of
11 at least 7 members, none of whom may be employees
12 of the Federal Government, including representa-
13 tives of research and academic institutions, industry
14 standards development organizations, State and
15 local government, and business communities who are
16 qualified to provide advice on windstorm impact re-
17 duction and represent all related scientific, architec-
18 tural, and engineering disciplines. The recommenda-
19 tions of the Advisory Committee shall be considered
20 by Federal agencies in implementing the National
21 Windstorm Impact Reduction Program.

22 (4) ASSESSMENTS.—The Advisory Committee
23 on Earthquake Hazards Reduction and the Advisory
24 Committee on Windstorm Impact Reduction shall
25 offer assessments on—

1 (A) trends and developments in the nat-
2 ural, social, and engineering sciences and prac-
3 tices of earthquake hazards or windstorm im-
4 pact mitigation;

5 (B) the priorities of the Programs' Stra-
6 tegic Plans;

7 (C) the coordination of the Programs; and

8 (D) and any revisions to the Programs
9 which may be necessary.

10 (5) REPORTS.—At least every two years, the
11 Advisory Committees shall report to the Director of
12 the National Institute of Standards and Technology
13 on the assessments carried out under paragraph (4)
14 and their recommendations for ways to improve the
15 Programs. In developing recommendations for the
16 National Earthquake Hazards Reduction Program,
17 the Advisory Committee on Earthquake Hazards Re-
18 duction shall consider the recommendations of the
19 United States Geological Survey Scientific Earth-
20 quake Studies Advisory Committee.

21 (c) COORDINATION OF FEDERAL DISASTER RE-
22 SEARCH, DEVELOPMENT, AND TECHNOLOGY TRANS-
23 FER.—Not later than 2 years after the date of enactment
24 of this Act, the Subcommittee on Disaster Reduction of
25 the Committee on Environment and Natural Resources of

1 the National Science and Technology Council shall submit
2 a report to the Congress identifying—

3 (1) current Federal research, development, and
4 technology transfer activities that address hazard
5 mitigation for natural disasters, including earth-
6 quakes, hurricanes, tornados, wildfires, floods, and
7 the current budgets for these activities;

8 (2) areas of research that are common to two
9 or more of the hazards identified in paragraph (1);
10 and

11 (3) opportunities to create synergies between
12 the research activities for the hazards identified in
13 paragraph (1).

14 **TITLE IV—NATIONAL CON-**
15 **STRUCTION SAFETY TEAM**
16 **ACT AMENDMENTS**

17 **SEC. 401. NATIONAL CONSTRUCTION SAFETY TEAM ACT**
18 **AMENDMENTS.**

19 The National Construction Safety Team Act (15
20 U.S.C. 7301 et seq.) is amended—

21 (1) in section 2(a)—

22 (A) by striking “a building or buildings”
23 and inserting “a building, buildings, or infra-
24 structure”; and

- 1 (B) by striking “To the maximum extant
2 practicable, the Director shall establish and de-
3 ploy a Team within 48 hours after such an
4 event.” and inserting “The Director shall make
5 a decision whether to deploy a Team within 72
6 hours after such an event.”;
- 7 (2) in section 2(b)(1), by striking “buildings”
8 and inserting “buildings or infrastructure”;
- 9 (3) in section 2(b)(2)(A), by striking “building”
10 and inserting “building or infrastructure”;
- 11 (4) in section 2(b)(2)(D), by striking “build-
12 ings” and inserting “buildings or infrastructure”;
- 13 (5) in section 2(c)(1), by striking “the United
14 States Fire Administration and”;
- 15 (6) in section 2(c)(1)(G), by striking “building”
16 and inserting “building or infrastructure”;
- 17 (7) in section 2(c)(1)(J)—
- 18 (A) by striking “building” and inserting
19 “building or infrastructure”; and
- 20 (B) by inserting “and the National Wind-
21 storm Impact Reduction Act of 2004” after
22 “Act of 1977”;
- 23 (8) in section 4(a), by striking “investigating a
24 building” and inserting “investigating building and
25 infrastructure”;

1 (9) in section 4(a)(1)—

2 (A) by striking “a building” and inserting
3 “a building or infrastructure”; and

4 (B) by striking “building” both of the
5 other places it appears and inserting “building
6 or infrastructure”;

7 (10) in section 4(a)(3), by striking “building”
8 both places it appears and inserting “building or in-
9 frastructure”;

10 (11) in section 4(b), by striking “building” both
11 places it appears and inserting “building or infra-
12 structure”;

13 (12) in section 4(c)(1) and (2), by striking
14 “building” both places it appears and inserting
15 “building or infrastructure”;

16 (13) in section 4(d)(3) and (4), by striking
17 “building” both places it appears and inserting
18 “building or infrastructure”;

19 (14) in section 7(a), by striking “on request
20 and at reasonable cost”;

21 (15) in section 7(c), by striking “building” and
22 inserting “building or infrastructure”;

23 (16) in section 8(1) and (4), by striking “build-
24 ing” both places it appears and inserting “building
25 or infrastructure”;

1 (17) in section 9, by striking “the United
2 States Fire Administration and”;

3 (18) in section 9(2)(C), by striking “building”
4 and inserting “building or infrastructure”;

5 (19) in section 10(3), by striking “building”
6 and inserting “building and infrastructure”;

7 (20) in section 11(a), by striking “the United
8 States Fire Administration and”; and

9 (21) by striking section 12.

10 **TITLE V—FIRE RESEARCH**
11 **PROGRAM**

12 **SEC. 501. FIRE RESEARCH PROGRAM.**

13 Section 16(a)(1) of the National Institute of Stand-
14 ards and Technology Act (15 U.S.C. 278f(a)(1)) is
15 amended—

16 (1) in subparagraph (D), by inserting “fires at
17 the wildland-urban interface,” after “but not limited
18 to,”; and

19 (2) in subparagraph (E), by inserting “fires at
20 the wildland-urban interface,” after “types of fires,
21 including”.

○

SECTION-BY-SECTION ANALYSIS OF
H.R. 3820, A BILL TO REAUTHORIZE FEDERAL HAZARDS
REDUCTION PROGRAMS, AND FOR OTHER PURPOSES

Sec. 1. Short Title

The Natural Hazards Risk Reduction Act of 2009

Sec. 2. Findings

The U.S. faces significant risks from many types of hazards, including earthquakes, hurricanes, tornadoes, wildfires, and floods. The risk to life and property will continue to grow as more people move to hazard-prone areas. Outlines the damage caused by natural disasters and explains that if stringent building codes were enforced, much less damage would occur. More research in other risk mitigation efforts need to be taken, specifically on communications, enhancing prediction abilities, resilient structures, and lifelines.

Title I. EARTHQUAKES**Sec. 101. Short Title**

National Earthquake Hazards Reduction Program Reauthorization Act of 2009

Sec. 102. Findings

Repeals Section 2 of the *Earthquake Hazards Reduction Act of 1977* (42 U.S.C. 7701), which were the original 'Findings'.

Sec. 103. Definitions

Removes the definitions of the "Interagency Coordination Committee" and the "Advisory Committee" from Section 4 of the *National Earthquake Hazards Reduction Act of 1977*.

Sec. 104. National Earthquake Hazards Reduction Program

Defines the National Earthquake Hazards Reduction Program's (NEHRP) activities; identifies the four agencies that make up NEHRP: the National Institute of Standards and Technology (NIST), the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS), and the National Science Foundation (NSF); defines NIST as the lead agency; and assigns responsibilities to the different agencies.

Program activities include: research and development to reduce the risks of earthquakes to the built environment; research to improve the understanding of earthquakes and their impact on the built environment and society; and facilitation of the adoption of earthquake risk reduction measures through grants, technical assistance, development of building standards and guidelines, outreach to practitioners and community members, and other means.

In addition to lead agency responsibilities, NIST shall also support research and development to improve codes, standards, and practices for new and existing buildings and lifelines. Such activities also include the development of tools and technical resources to help practitioners use new knowledge to mitigate earthquakes.

FEMA activities include: facilitating the development and adoption of codes, standards and practices for new and existing structures and lifelines; the development of tools and methods to predict earthquake damage; and support a public earthquake education and public awareness program. FEMA also has the responsibility of a State assistance grant program to assist states in implementing various mitigation activities.

USGS activities shall include research and other means to characterize earthquake hazards, assess earthquake risks, monitor seismic activity, and provide real-time earthquake information. These activities include the continued development of the Advanced National Seismic System and the Global Seismographic Network,

NSF activities shall include the support of basic research to further the understanding of earthquake, earthquake engineering and community preparation and response to earthquakes. Such activities will also include support if the George E. Brown, Jr. Network for Engineering and Earthquake Simulation.

Sec. 105. Post-Earthquake Investigations Program

NEHRP shall be responsible for a post-earthquake investigations program. The lead agency shall be responsible for coordinating such investigations after earth-

quakes, in order to gather information and data to learn lessons that may be applied to reduce future earthquake losses.

Sec. 106. Authorization of Appropriations

Total authorization for FEMA from FY 2010 to FY 2014: \$54,354,000
 Total authorization for USGS, including the Advanced National Seismic Research and Monitoring System from FY 2010 to FY 2014: \$371,640,000
 Total authorization for NSF from FY 2010 to FY 2014: \$286,275,000
 Total authorization for NIST from FY 2010 to FY 2014: \$39,214,000

Title II. WIND

Sec. 201. Short Title

The National Windstorm Impact Reduction Act Reauthorization of 2009

Sec. 202. Purpose

The purpose of the program is to support research, development, and technology transfer activities that will lead to a reduction in the loss of life and property from windstorms.

Sec. 203. Definitions

Amends the Act to define “Director” as the Director of the National Institute of Standards and Technology.

Sec. 204. National Windstorm Impact Reduction Program

Defines the National Windstorm Impact Reduction Program’s (NWIRP) activities; identifies the four agencies that make up NWIRP: the National Institute of Standards and Technology (NIST), the Federal Emergency Management Agency (FEMA), the National Oceanic and Atmospheric Administration (NOAA), and the National Science Foundation (NSF); defines NIST as the lead agency; and assigns responsibilities to the different agencies.

Program activities include: research and development on methods and technologies to reduce the risk of windstorms to the built environment; research to improve the understanding of windstorms and their impacts on the built environment and communities; and the facilitation of the adoption of windstorm risk reduction measures, through development of codes and standards, outreach, and other means.

In addition to lead agency responsibilities, NIST activities shall also include research and development to: improve codes, standards, and design guidance for the construction and retrofit of new and existing structures; support the development of wind measurement tools; and the development of methods to collect data after severe wind events.

FEMA activities include: the development of: windstorm impact assessment tools; windstorm impact mitigation techniques; data collection and analysis after windstorm events; and outreach to facilitate mitigation measures in communities and among building practitioners.

NOAA activities include the support of: atmospheric science research and data collection to better understand windstorms and their impacts.

NSF activities include: research to improve the understanding of windstorms, their impact on the built environment, and on households, businesses, and communities.

Sec. 205. Authorization of Appropriations

Total authorization for FEMA from FY 2010 to FY 2014: \$51,403,100
 Total authorization for NSF from FY 2010 to FY 2014: \$51,403,100
 Total authorization for NIST from FY 2010 to FY 2014: \$21,873,600
 Total authorization for NOAA from FY 2010 to FY 2014: \$12,030,500

Title III. INTERAGENCY COORDINATING COMMITTEE ON NATURAL HAZARDS RISK REDUCTION

Sec. 301. Interagency Coordinating Committee on Natural Hazards Risk Reduction

Establishes an Interagency Committee (ICC) on Natural Hazards Risk Reduction, chaired by the Director of the National Institute of Standards and Technology (NIST) and comprised also of the Directors of the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS), the National Oceanic

and Atmospheric Administration (NOAA), the National Science Foundation (NSF), the Office of Science and Technology Policy (OSTP), the Office of Management and Budget (OMB), and the head of any other federal agency the Committee considers appropriate. Gives the ICC the responsibility of developing strategic plans, progress reports, and coordinated budgets for both the National Earthquake Hazards Reduction Program (NEHRP) and the National Windstorm Impact Reduction Program (NWIRP).

Establishes an Advisory Committees for NEHRP and NWIRP of relevant non-Federal employee experts to offer guidance and recommendations on program activities.

Requires the Subcommittee on Disaster Reduction, of the Committee on Environment and Natural Resources of the National Science and Technology Council, to submit a report to Congress identifying the current federal research, development, and technology transfer activities that address mitigation for all types of natural hazards, and opportunities to create synergies among the various research activities.

Title IV. NATIONAL CONSTRUCTION SAFETY TEAM ACT AMENDMENTS

Sec. 401. National Construction Safety Team Act Amendments

Amends the *National Construction Safety Team Act* (P.L. 107–231) to: include infrastructure, as well as buildings and to give the Director of the National Institute of Standards and Technology (NIST) 72 hours to decide to deploy a Construction Safety Team.

Title V. FIRE RESEARCH PROGRAM

Sec. 501. Fire Research Program

To add to the National Institute of Standards and Technology’s existing fire research authority, research on “fires at the wildland-urban interface.”

COMMITTEE ON SCIENCE AND TECHNOLOGY
FULL COMMITTEE MARKUP
October 21, 2009

AMENDMENT ROSTER

H. R. 3820, the *Natural Hazards Risk Reduction Act of 2009*

No.	Amendment	Summary	Results
1	Mr. Wu/ Mr. Smith (Manager's Amendment) (025)	Makes several technical and clarifying changes to the bill.	Agreed to by voice vote.
2	Mr. Grayson (034)	Amends Section 204 ("National Windstorm Impact Reduction Program") to direct the National Oceanic and Atmospheric Administration (NOAA) to incorporate storm surge-related issues into certain of its research and data collection support activities related to improving understanding of windstorms.	Agreed to by voice vote.

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AMENDMENT TO H.R. 3820
OFFERED BY MR. WU OF OREGON AND MR.
SMITH OF NEBRASKA

Page 17, lines 12 and 13, strike “population groups and economic sectors” and insert “segments of the community”.

Page 30, lines 22 through 24, amend subparagraph (C) to read as follows:

1 “(C) supporting the development of suit-
2 able wind speed maps and other derivative
3 products that support building codes and other
4 hazard mitigation approaches for buildings,
5 structures, and lifelines;

Page 31, line 8, insert “and State and local governments” after “Federal agencies”.

Page 32, lines 3 and 4, strike “population groups and economic sectors” and insert “segments of the community”.



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AMENDMENT TO H.R. 3820
OFFERED BY MR. GRAYSON OF FLORIDA

Page 31, line 5, insert “and storm surge-related”
after “wind-related”.

Page 31, line 6, strike “and”.

Page 31, line 9, strike the period and insert “; and”.

Page 31, after line 9, insert the following new sub-
paragraph:

1 “(F) working with other appropriate Fed-
2 eral agencies to develop storm surge models to
3 better understand the interaction between wind-
4 storms and bodies of water.

