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112TH CONGRESS }
2d Session }

SENATE

{ REPORT
112-150

NATURAL HAZARDS RISK REDUCTION ACT
OF 2011

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION

ON

S. 646



FEBRUARY 27, 2012.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED TWELFTH CONGRESS

SECOND SESSION

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NATURAL HAZARDS RISK REDUCTION ACT OF 2011

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Mr. ROCKEFELLER, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

[To accompany S. 646]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 646) to reauthorize Federal natural hazards reduction programs, and for other purposes, having considered the same, reports favorably thereon with an amendment (in the nature of a substitute) and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The purpose of S. 646, the Natural Hazards Risk Reduction Act of 2011, is to reauthorize programs that reduce public exposure to risk from natural disasters, specifically earthquakes, windstorms, and wildfires, and for other purposes.

BACKGROUND AND NEEDS

Events of the past year—the Tohoku, Japan earthquake and tsunami; wildfires in Texas; tornadoes across the southern and southeastern United States; and flooding across that same region—have raised questions as to whether the Nation has properly invested in its resilience to natural disasters. The United States faces a large array of natural hazards requiring a holistic approach to research, forecasting, public outreach, and the application of mitigation strategies.

A significant percentage of the U.S. population lives in areas subject to risk of loss of life or property from natural hazards, such as earthquakes, severe weather, and wildfires. According to the National Oceanic and Atmospheric Administration (NOAA), over half

of the U.S. population lives within 50 miles of the coast,¹ but severe weather events affect every State.² Greater knowledge of the physical processes of natural hazards and their effects can guide the development of methods to mitigate losses. A 2005 analysis of natural hazard mitigation grants awarded by the Federal Emergency Management Agency (FEMA) found that every dollar invested in mitigation saved the Nation an average of four dollars in future disaster response costs and losses.³

National Earthquake Hazards Reduction Program

Earthquakes often occur without warning and can leave in their wake severe damage to buildings and property, as well as loss of life. To help reduce these risks, Congress established the National Earthquake Hazards Reduction Program (NEHRP) in 1977 (P.L. 95–124) recognizing that advances in building design and construction, land use decisions, improvements in earthquake prediction and magnitude, coordinated emergency preparedness plans, public education, and community involvement could reduce earthquake-related losses.

In May 2010, NEHRP’s Advisory Committee on Earthquake Hazards Reduction completed its third annual assessment of the program’s effectiveness (as required by P.L. 108–360) and found that NEHRP is a “highly successful program” that has improved public safety through earthquake awareness and preparedness.⁴ However, the Advisory Committee remains concerned that the Nation is still not well prepared for a large earthquake. To address this, its recommendations include: increasing the pace of implementation for the 2009–2013 NEHRP Strategic Plan; working to ensure sufficient funding for Strategic Plan implementation; and prioritizing investments in lifeline systems (energy, transportation, water, and communications) to achieve seismic resilience. In March 2011, a National Research Council report also endorsed the 2009–2013 NEHRP Strategic Plan and made recommendations to further increase the Nation’s resilience to earthquakes.⁵

The bill would update, clarify, and, in some cases, expand the activities of NEHRP for earthquake risk reduction. This includes research and development to reduce the risk to the built environment, with a particular emphasis on retrofitting existing infrastructure, and research to determine how risk is perceived in an effort to improve the adoption of risk reduction measures. The bill would also take an all-hazards approach to the Interagency Coordinating Committee and expand it to include the National Windstorm Impact Reduction Program (NWIRP).

National Windstorm Impact Reduction Program

Windstorms, such as tornadoes and hurricanes, can cause widespread damage, with or without advanced notice. The spring of 2011 was an unusually active tornado season in the United States.

¹ <http://oceanservice.noaa.gov/facts/population.html>.

² http://www.nssl.noaa.gov/faq/faq_tor.php.

³ National Institute of Building Sciences, Multihazard Mitigation Council. *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities* (Washington, DC, 2005).

⁴ Effectiveness of the National Earthquake Hazards Reduction Program: A Report from the Advisory Committee on Earthquake Hazards Reduction, <http://nehrp.gov/pdf/2010ACEHRReport.pdf>

⁵ National Research Council, *National Earthquake Resilience: Research, Implementation, and Outreach*, 2011.

April alone saw 753 tornadoes, the highest on record in a single month, with an estimated 364 fatalities.⁶ A single EF-5 tornado hit Joplin, Missouri, a town of just under 50,000 people, on May 22, 2011, with winds in excess of 200 mph leaving 159 people dead⁷ and \$2 billion to \$3 billion in disaster costs—the costliest in the State’s history.⁸

Modeled after NEHRP, Congress established NWIRP in 2004 with a goal of achieving a major measurable reduction in the loss of life and property from windstorms. The National Windstorm Impact Reduction Act of 2004 (42 U.S.C. 15701 et seq.) directed the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), FEMA, and NOAA to develop a coordinated research and development program to mitigate damage from windstorms; however, the program has struggled with inter-agency coordination since its inception. Building again off of the successful NEHRP model, S. 646 would establish NIST as the lead agency for NWIRP. S. 646 would also direct NWIRP to reduce the risks of windstorms to the built environment, improve the understanding of windstorms and their impacts, and facilitate adoption of risk reduction measures—priorities provided in the National Science and Technology Council’s 2006 report, “Windstorm Impact Reduction Implementation Plan.”⁹

National Construction Safety Team Act

The National Construction Safety Team (NCST) Act of 2002 (15 U.S.C. 7301 et seq.) authorized the Director of NIST to establish and deploy National Construction Safety Teams to investigate building failures. The framework for the teams was modeled after National Transportation Safety Board authorities for investigating transportation-related accidents. NIST has used its authority to investigate a number of major building failures, the most prominent being the collapse of World Trade Center Towers 1, 2, and 7. These investigations led to a number of recommendations that have been incorporated into building codes for future construction.¹⁰ Most recently under the NCST Act, NIST is conducting a comprehensive study of the building performance and emergency communications during the May 22, 2011, tornado in Joplin, Missouri.

The changes in S. 646 would provide NIST with flexibility in implementing the NCST Act by adding the authority to investigate infrastructure failures, and providing the Director 72 hours after a building or infrastructure failure to decide whether to pursue an investigation.

Wildfires at the Wildland-Urban Interface

Development in the wildland-urban interface—an area where urban structures meet undeveloped wildland—continues to grow. Homes in these areas are particularly vulnerable to fires that start

⁶NOAA 2011 tornado information, http://www.noaanews.noaa.gov/2011_tornado_information.html.

⁷NWS Central Region Service Assessment, Joplin, Missouri, Tornado—May 22, 2011. http://www.nws.noaa.gov/os/assessments/pdfs/Joplin_tornado.pdf.

⁸“Missouri Department of Insurance says Joplin disaster will be the most costly insurance payout in State history,” Live Insurance News, July 27, 2011. <http://www.liveinsurancenews.com/missouri-department-of-insurance-says-joplin-disaster-will-be-the-most-costly-insurance-payout-in-state-history/854253/>.

⁹http://www.sdr.gov/Wind-storm_Impact_Reduction_Implementation_Plan_FINAL.pdf.

¹⁰National Construction Safety Team Act FY 2008 Annual Report to Congress, http://www.nist.gov/el/disasterstudies/ncst/upload/ncst_report_congress2008.pdf.

and spread through unpopulated wildlands. For instance, the Station fire near Los Angeles from August to October 2009 was the 10th largest in California since 1933, destroying more than 200 structures and costing approximately \$90 million to contain.^{11,12} The bill would expand NIST's fire research authority to include fires at the wildland-urban interface with a goal of improving building codes, urban planning, and firefighting strategies.¹³

SUMMARY OF PROVISIONS

S. 646 would reauthorize and update NEHRP for fiscal years (FYs) 2011 through 2015 and authorize appropriations totaling \$905,656,000 over the five-year period for NIST, FEMA, the U.S. Geological Survey (USGS), and NSF. The majority of the funding would go to USGS for real-time seismic monitoring systems and NSF for basic research, including social science aspects to reduce risks (\$471,640,000 and \$340,448,000, respectively). The remainder of the funding would go to NIST (\$39,214,000) for research and development to improve building standards and practices and FEMA (\$54,354,000) to facilitate the adoption of model building codes and other mitigation measures. NIST would remain the lead agency for the program and also take over responsibility for organizing investigations under the post-earthquake investigations program.

The bill would reauthorize and revise NWIRP for FYs 2011 through 2015 and authorize appropriations totaling \$136,710,300 for the five-year period for NIST, FEMA, NSF, and NOAA. The majority of the funding would go to FEMA (\$51,403,100) for development and implementation of risk assessment tools and mitigation techniques and NSF (\$51,403,100) for basic windstorm research, including community preparedness and response. The remainder of the funding would go to NIST (\$21,873,600) for research and development to improve building standards and practices, and NOAA (\$12,030,500) to support research and data collection, including a competitive grant program in these areas. The bill would establish NIST as the lead agency following the successful NEHRP model.

The bill would repeal provisions establishing the Interagency Coordinating Committee on Earthquake Hazards Reduction and replace it with the establishment of an Interagency Coordinating Committee on Natural Hazards Risk Reduction, chaired by the Director of NIST. The committee would oversee planning and coordination for both NEHRP and NWIRP, and other natural hazard mitigation, as appropriate.

Finally, the bill would expand the National Construction Safety Team Act of 2002 to allow for the deployment of teams to investigate infrastructure failure events that lead to a substantial loss of life, as well as buildings, and amend the National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) to include research relating to protecting homes and communities from fires at the wildland-urban interface.

¹¹ <http://inciweb.org/incident/1856/>.

¹² <http://inciweb.org/incident/article/9535/>.

¹³ <http://www2.bfrl.nist.gov/userpages/wmell/public.html>.

LEGISLATIVE HISTORY

S. 646, the Natural Hazards Risk Reduction Act of 2011, was introduced on March 17, 2011, by Senator Boxer and referred to the Committee on Commerce, Science, and Transportation. Senators Feinstein, Cantwell, and Rockefeller have cosponsored the bill. Representative Wu introduced a companion bill, H.R. 1379, on April 5, 2011.

On May 3, 2011, the Committee held a hearing entitled “America’s Natural Disaster Preparedness: Are Federal Investments Paying Off?” and heard testimony from Dr. William Hooke, Senior Policy Fellow and Director, American Meteorological Society; Mr. Bob Ryan, Senior Meteorologist, ABC7/WJLA-TV; Dr. Anne Kiremidjian, Professor, Department of Civil and Environmental Engineering, Stanford University, on behalf of the American Society of Civil Engineers; and Dr. Clint Dawson P.E., Professor, Institute for Computational Engineering and Sciences, University of Texas at Austin. The hearing examined how investments in mitigation and preparedness through the programs reauthorized by S. 646 would save lives and reduce reconstruction costs during future disasters.

On May 5, 2011, the Committee met in open Executive Session and, by a voice vote, ordered S. 646 reported with an amendment in the nature of a substitute.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

S.646—Natural Hazards Risk Reduction Act of 2011

Summary: S. 646 would reauthorize federal programs aimed at developing methods to reduce damage 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 \$803 million over the 2012–2016 period and \$43 million after 2016. Enacting S. 646 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

S. 646 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 Tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 646 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—					
	2012	2013	2014	2015	2016	2012–2016
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Title I: National Earthquake Hazards Reduction Program:						
Authorization Level ^a	177	181	185	191	0	734
Estimated Outlays	111	152	176	189	71	699
Title II: National Windstorm Impact Reduction Program: ^b						
Authorization Level	26	26	29	30	0	111
Estimated Outlays	13	21	26	30	14	104
Title III: Advisory Committees:						
Estimated Authorization Level	*	*	*	*	*	1
Estimated Outlays	*	*	*	*	*	1
Total Changes:						
Estimated Authorization Level	203	207	214	221	0	846
Estimated Outlays	124	173	202	219	85	803

Notes: * = less than \$500,000. Amounts may not sum to totals because of rounding.

^aOf appropriations received in fiscal year 2010, agencies that participate in the National Earthquake Hazards Reduction Program allocated about \$130 million to carry out the program. Those agencies have not completed their allocations of fiscal year 2011 appropriations for the program.

^bOf appropriations received in fiscal year 2010, agencies that carry out activities related to the National Windstorm Impact Reduction Program allocated about \$25 million for those purposes. Those agencies have not completed their allocations of fiscal year 2011 appropriations for activities related to the program.

Basis of estimate: For this estimate, CBO assumes that S. 646 will be enacted in 2011 and that the authorized and necessary amounts will be appropriated for each fiscal year (beginning in fiscal year 2012). Estimated outlays are based on historical spending patterns for similar activities.

Over the 2012–2015 period, title I would authorize appropriations totaling \$381 million for the United States Geological Survey, \$276 million for the National Science Foundation (NSF), \$45 million for the Federal Emergency Management Agency (FEMA), and \$32 million for the National Institute of Standards and Technology (NIST) to carry out the National Earthquake Hazards Reduction Program. Assuming appropriation of the authorized amounts, CBO estimates that implementing the provisions of title I would cost \$699 million over the 2012–2016 period and \$35 million after 2016.

Over the 2012–2015 period, title II would authorize appropriations totaling \$42 million for NSF, \$42 million for FEMA, \$18 million for NIST, and \$9 million for the National Oceanic and Atmospheric Administration to carry out the National Windstorm Impact Reduction Program. Assuming appropriation of the authorized amounts, CBO estimates that implementing the provisions of title II would cost \$104 million over the 2012–2016 period and \$7 million after 2016.

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 2012–2016 period, assuming appropriation of the necessary amounts.

Intergovernmental and private-sector impact: S. 646 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or Tribal governments.

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

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

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

The bill would authorize appropriations for the program agencies of NEHRP and NWIRP for FYs 2011 through 2015. The Committee believes that the bill would not subject any individuals or businesses affected by the bill to any additional regulations.

ECONOMIC IMPACT

Over the five-year period from FY 2011 to FY 2015, the bill would authorize a total of \$905.66 million in appropriations to FEMA, USGS, NSF, and NIST for NEHRP activities and \$136.71 million in appropriations to FEMA, NOAA, NSF, and NIST for NWIRP activities. These funding levels are not expected to have an inflationary impact on the Nation's economy.

PRIVACY

The bill would have little, if any, negative impact on the personal privacy of individuals.

PAPERWORK

Except for individuals voluntarily serving on either the NEHRP or NWIRP Advisory Committee, the reported bill would not increase paperwork requirements for private individuals or businesses. For the Federal Government, the bill would require reports from the Interagency Coordinating Committee on Natural Hazards Risk Reduction and the Advisory Committees for NEHRP and NWIRP detailing strategic plans, biennial progress reports, and coordinated budgets.

CONGRESSIONALLY DIRECTED SPENDING

In compliance with paragraph 4(b) of rule XLIV of the Standing Rules of the Senate, the Committee provides that no provisions contained in the bill, as reported, meet the definition of congressionally directed spending items under the rule.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title.

This section would provide that the legislation be cited as the "Natural Hazards Risk Reduction Act of 2011."

Section 2. Findings.

This section would describe the findings of this Act.

TITLE I—EARTHQUAKES

Section 101. Short Title.

This section would provide that this title be cited as the “National Earthquake Hazards Reduction Program Reauthorization Act of 2011.”

Section 102. Findings.

This section would repeal the Congressional findings in section 2 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701).

Section 103. Definitions.

This section would strike the definitions of the “Interagency Coordination Committee” and the “Advisory Committee” from section 4 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7703).

Section 104. National Earthquake Hazards Reduction Program.

This section would update, clarify, and, in some cases, expand the activities of NEHRP, including research and development to reduce the risk to the built environment, with a particular emphasis on retrofitting existing infrastructure, and research to determine how risk is perceived in an effort to improve the adoption of risk reduction measures.

The section would describe the responsibilities of each of the program agencies, including NIST, FEMA, USGS, and NSF. NIST would remain the Program’s lead agency responsible for planning and coordination. Additionally, NIST would be directed to conduct research and development to improve building codes, standards, and practices for buildings, structures, and lifelines. FEMA would be directed to facilitate the development and adoption of standards, codes, and practices to mitigate earthquake risks, and to operate a State assistance grant program to enhance seismic safety. USGS would be required to characterize and identify earthquake hazards, assess earthquake risks, monitor seismic activity, and provide real-time earthquake information. NSF would be responsible for supporting basic research to further the understanding of earthquakes, earthquake engineering, and community preparation and response to earthquakes.

This section would also require the Interagency Coordinating Committee on Natural Hazards Risk Reduction to provide annual guidance to the Program agencies in preparation of their budget requests for activities related to the Program and to submit an annual Program budget to the Office of Management and Budget (OMB).

Section 105. Post-Earthquake Investigations Program.

This section would direct NEHRP to include a post-earthquake investigations program for major earthquakes in an attempt to apply any lessons learned to reduce the loss of lives and property in future earthquakes. The lead Program agency would be responsible for organizing the investigation in consultation with all Program agencies. The investigation would begin as rapidly as pos-

sible, could be conducted by grantees or contractors, and results would be disseminated widely.

Section 106. Authorization of Appropriations.

For the purposes of carrying out this Act in FYs 2011 through 2015, this section would authorize a total of \$54,354,000 for FEMA; \$471,640,000 for USGS, of which \$190,000,000 would be available for completion of the Advanced National Seismic Research and Monitoring System; \$340,448,000 for NSF; and \$39,214,000 for NIST.

TITLE II—WIND

Section 201. Short Title.

This section would provide that this title be cited as the “National Windstorm Impact Reduction Act Reauthorization of 2011.”

Section 202. Purpose.

This section would provide that the purpose of the Windstorm Impact Reduction Program is to achieve a measurable reduction in losses of life and property from windstorms.

Section 203. Definitions.

This section would amend the definition of “Director” in the National Windstorm Impact Reduction Act of 2004 (42 U.S.C. 15702(1)) to specify the Director of NIST.

Section 204. National Windstorm Impact Reduction Program.

This section would define the activities of NWIRP to reduce the risks of windstorms to the built environment, to improve the understanding of windstorms and their impacts, and to facilitate adoption of risk reduction measures.

The section would describe the responsibilities of each of the program agencies, including NIST, FEMA, NOAA, and NSF. NIST would be identified as the lead agency responsible for planning and coordinating NWIRP. Additionally, NIST would be directed to conduct research and development to improve building codes, standards, and practices for buildings, structures, and lifelines. FEMA would support the development of risk assessment tools and mitigation techniques; data collection and analysis after windstorm events; and outreach to facilitate mitigation measures. NOAA would support research and data collection to improve the understanding of windstorms and their impacts. NSF would support basic research to further the understanding of windstorms, wind engineering, and community preparation and response.

Section 205. Authorization of Appropriations.

For the purposes of carrying out this Act in FYs 2011 through 2015, this section would authorize a total of \$51,403,100 for FEMA; \$51,403,100 for NSF; \$21,873,600 for NIST; and \$12,030,500 for NOAA.

TITLE III—INTERAGENCY COORDINATING COMMITTEE ON NATURAL
HAZARDS RISK REDUCTION

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

This section would establish an Interagency Coordinating Committee on Natural Hazards Risk Reduction, chaired by the Director of NIST and including the Directors of FEMA, USGS, NOAA, NSF, the Office of Science and Technology Policy, OMB, and the head of any other Federal agency the Committee considers appropriate. The Committee would be tasked with overseeing the planning and coordination of NEHRP and NWIRP, and also developing strategic plans, progress reports, and coordinated budgets for both programs.

Similar to the National Advisory Committee on Windstorm Impact Reduction, this section would mandate that the Director of NIST establish an Advisory Committee on Earthquake Hazards Reduction comprised of relevant non-Federal employee experts to offer guidance and recommendations on research, development, and technology transfer activities to mitigate the impacts of natural disasters. Each advisory committee would be required to report to the Director of NIST at least once every two years on the priorities and coordination of the programs, and ways to improve the programs.

Not later than two years after enactment, this section would also require 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 between the various research activities.

TITLE IV—NATIONAL CONSTRUCTION SAFETY TEAM ACT AMENDMENTS

Section 401. National Construction Safety Team Act Amendments.

This section would expand the National Construction Safety Team Act (15 U.S.C. 7301 et seq.) to include infrastructure in addition to buildings, and to give the Director of NIST 72 hours to decide whether to deploy a NCST after an event causing the failure of building(s) and/or infrastructure involving the loss or potential for loss of life.

TITLE V—FIRE RESEARCH PROGRAM

Section 501. Fire Research Program.

This section would amend section 16(a)(1) of the National Institute of Standards and Technology Act (15 U.S.C. 278f(a)(1)) to include “fires at the wildland-urban interface” to NIST’s existing fire research authority.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, 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 material is printed in italic, existing law in which no change is proposed is shown in roman):

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977

[SEC. 2. CONGRESSIONAL FINDINGS.

[42 U.S.C. 7701]

[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 life-lines 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 manmade 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 hazards reduction will require input from and review by persons outside the Federal Government expert in the sciences of earthquake hazards reduction and in the practical application of earthquake hazards reduction measures.】

SEC. 4. DEFINITIONS.

[42 U.S.C. 7703]

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

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

(2) The term “Program” means the National Earthquake Hazards Reduction Program established under section 5.

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

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

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

(6) The term “lifelines” means public works and utilities, including transportation facilities and infrastructure, oil and gas pipelines, electrical power and communication facilities and infrastructure, and water supply and sewage treatment facilities.

(7) The term “Program agencies” means the Federal Emergency Management Agency, the United States Geological Survey, the National Science Foundation, and the National Institute of Standards and Technology.

【(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.

[42 U.S.C. 7704]

(a) ESTABLISHMENT.—

(1) IN GENERAL.—There is established the National Earthquake Hazards Reduction Program.

[(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 decision 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.]

(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.*

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

[(A) IN GENERAL.—There is established an Interagency Coordinating Committee on Earthquake Hazards Reduction 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.】
- 【(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.
- 【(E), (F) [Redesignated]】
- 【(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 ob-

tained 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 a 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”), consistent with the Agency’s all hazards approach, 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. The Director shall operate such programs in coordination with the all hazards mitigation and preparedness programs authorized by the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.), in order to ensure that such programs are as consistent as possible. 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.

(D) *FEDERAL EMERGENCY MANAGEMENT AGENCY ROLE AND RESPONSIBILITY.*—Nothing in this Act shall be construed to diminish the role and responsibility of the Federal Emergency Management Agency with regard to all hazards preparedness, response, recovery, and mitigation.

(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, and, to the extent possible, ensure that such alerts are compatible with the Integrated Public Alerts and Warning System program authorized by section 202 of the Robert T.

Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5132);

(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, and, to the extent possible, ensure that such maps are developed consistent with the multihazard advisory maps authorized by section 203(k) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5133(k));

(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 largescale experimental and computational fa-

cilities 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 2011* 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.

(2) **REPORTS.**—Each Program agency shall include with its annual request for appropriations submitted to the Office of Management and Budget a report that—

(A) identifies each element of the proposed Program activities of the agency;

(B) specifies how each of these activities contributes to the Program; and

(C) states the portion of its request for appropriations allocated to each element of the Program.

SEC. 11. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.

[42 U.S.C. 7705e]

¶ 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 earth-

quakes. 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) analysis by the National Science Foundation and the United States Geological Survey of the causes of the earthquake and the nature of the resulting ground motion;

(2) analysis by the National Science Foundation and the National Institute of Standards and Technology of the behavior of structures and lifelines, both those that were damaged and those that were undamaged; and

(3) analysis by each of the Program agencies of the effectiveness of the earthquake hazards mitigation programs and actions relating to its area of responsibility under the Program, and how those programs and actions could be strengthened.

SEC. 12. AUTHORIZATION OF APPROPRIATIONS.

[42 U.S.C. 7706]

(a) GENERAL AUTHORIZATION FOR THE PROGRAM.—

(1) There are authorized to be appropriated to the President to carry out the provisions of sections 5 and 6 of this Act (in addition to any authorizations for similar purposes included in other Acts and the authorizations set forth in subsections (b) and (c) of this section), not to exceed \$1,000,000 for the fiscal year ending September 30, 1978, not to exceed \$2,000,000 for the fiscal year ending September 30, 1979, and not to exceed \$2,000,000 for the fiscal year ending September 30, 1980.

(2) There are authorized to be appropriated to the Director to carry out the provisions of sections 5 and 6 of this Act for the fiscal year ending September 30, 1981—

(A) \$1,000,000 for continuation of the Interagency Committee on Seismic Safety in Construction and the Building Seismic Safety Council programs,

(B) \$1,500,000 for plans and preparedness for earthquake disasters,

(C) \$500,000 for prediction response planning,

(D) \$600,000 for architectural and engineering planning and practice programs,

(E) \$1,000,000 for development and application of a public education program,

(F) \$3,000,000 for use by the National Science Foundation in addition to the amount authorized to be appropriated under subsection (c), which amount includes \$2,400,000 for earthquake policy research and \$600,000 for the strong ground motion element of the siting program, and

(G) \$1,000,000 for use by the Center for Building Technology, National Bureau of Standards in addition to the amount authorized to be appropriated under subsection (d) for earthquake activities in the Center.

(3) There are authorized to be appropriated to the Director for the fiscal year ending September 30, 1982, \$2,000,000 to carry out the provisions of sections 5 and 6 of this Act.

(4) There are authorized to be appropriated to the Director, to carry out the provisions of sections 5 and 6 of this Act, \$1,281,000 for the fiscal year ending September 30, 1983.

(5) There are authorized to be appropriated to the Director, to carry out the provisions of sections 5 and 6 of this Act, for the fiscal year ending September 30, 1984, \$3,705,000, and for the fiscal year ending September 30, 1985, \$6,096,000.

(6) There are authorized to be appropriated to the Director, to carry out the provisions of sections 5 and 6 of this Act, for the fiscal year ending September 30, 1986, \$5,596,000, and for the fiscal year ending September 30, 1987, \$5,848,000.

(7) There are authorized to be appropriated to the Director of the Agency, to carry out this Act \$5,778,000 for the fiscal year ending September 30, 1988, \$5,788,000 for the fiscal year ending September 30, 1989, \$8,798,000 for the fiscal year ending September 30, 1990, \$14,750,000 for the fiscal year ending September 30, 1991, \$19,000,000 for the fiscal year ending September 30, 1992, \$22,000,000 for the fiscal year ending September 30, 1993, \$25,000,000 for the fiscal year ending September 30, 1995, \$25,750,000 for the fiscal year ending September 30, 1996, \$20,900,000 for the fiscal year ending September 30, 1998, \$21,500,000 for the fiscal year ending September 30, 1999; \$19,861,000 for the fiscal year ending September 30, 2001, of which \$450,000 is for National Earthquake Hazard Reduction Program-eligible efforts of an established multi-state consortium to reduce the unacceptable threat of earthquake damages in the New Madrid seismic region through efforts to enhance preparedness, response, recovery, and mitigation; \$20,705,000 for the fiscal year ending September 30, 2002; and \$21,585,000 for the fiscal year ending September 30, 2003.

(8) There are authorized to be appropriated to the Federal Emergency Management Agency for carrying out this title—

(A) \$21,000,000 for fiscal year 2005,

(B) \$21,630,000 for fiscal year 2006,

(C) \$22,280,000 for fiscal year 2007,

(D) \$22,950,000 for fiscal year 2008, and

(E) \$23,640,000 for fiscal year 2009, of which not less than 10 percent of available program funds actually appropriated shall be made available each such fiscal year for

supporting the development of performance-based, cost-effective, and affordable design guidelines and methodologies in codes for buildings, structures, and lifelines.

(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 2011;*
- (B) *\$10,545,000 for fiscal year 2012;*
- (C) *\$10,861,000 for fiscal year 2013;*
- (D) *\$11,187,000 for fiscal year 2014; and*
- (E) *\$11,523,000 for fiscal year 2015.*

(b) GEOLOGICAL SURVEY.—

(1) There are authorized to be appropriated to the Secretary of the Interior for purposes of carrying out, through the Director of the United States Geological Survey, the responsibilities that may be assigned to the Director under this Act not to exceed \$27,500,000 for the fiscal year ending September 30, 1978; not to exceed \$35,000,000 for the fiscal year ending September 30, 1979; not to exceed \$40,000,000 for the fiscal year ending September 30, 1980; \$32,484,000 for the fiscal year ending September 30, 1981; \$34,425,000 for the fiscal year ending September 30, 1982; \$31,843,000 for the fiscal year ending September 30, 1983; \$35,524,000 for the fiscal year ending September 30, 1984; \$37,300,200 for the fiscal year ending September 30, 1985[;] \$35,578,000 for the fiscal year ending September 30, 1986; \$37,179,000 for the fiscal year ending September 30, 1987; \$38,540,000 for the fiscal year ending September 30, 1988; \$41,819,000 for the fiscal year ending September 30, 1989; \$55,283,000 for the fiscal year ending September 30, 1990, of which \$8,000,000 shall be for earthquake investigations under section 11; \$50,000,000 for the fiscal year ending September 30, 1991; \$54,500,000 for the fiscal year ending September 30, 1992; \$62,500,000 for the fiscal year ending September 30, 1993; \$49,200,000 for the fiscal year ending September 30, 1995; \$50,676,000 for the fiscal year ending September 30, 1996; \$52,565,000 for the fiscal year ending September 30, 1998, of which \$3,800,000 shall be used for the Global Seismic Network operated by the Agency; and \$54,052,000 for the fiscal year ending September 30, 1999, of which \$3,800,000 shall be used for the Global Seismic Network operated by the Agency. There are authorized to be appropriated to the Secretary of the Interior for purposes of carrying out, through the Director of the United States Geological Survey, the responsibilities that may be assigned to the Director under this Act \$48,360,000 for fiscal year 2001, of which \$3,500,000 is for the Global Seismic Network and \$100,000 is for the Scientific Earthquake Studies Advisory Committee established under section 210 of the Earthquake Hazards Reduction Authorization Act of 2000; \$50,415,000 for fiscal year 2002, of which \$3,600,000 is for the Global Seismic Network and \$100,000 is for the Scientific Earthquake Studies Advisory Committee; and \$52,558,000 for fiscal year 2003, of which \$3,700,000 is for the Global Seismic Network and \$100,000 is for the Scientific Earthquake Studies Advisory Committee. Of the amounts authorized to be appropriated under this paragraph, at least—

- (A) \$8,000,000 of the amount authorized to be appropriated for the fiscal year ending September 30, 1998;
 - (B) \$8,250,000 of the amount authorized for the fiscal year ending September 30, 1999;
 - (C) \$9,000,000 of the amount authorized to be appropriated for fiscal year 2001;
 - (D) \$9,250,000 of the amount authorized to be appropriated for fiscal year 2002; and
 - (E) \$9,500,000 of the amount authorized to be appropriated for fiscal year 2003, shall be used for carrying out a competitive, peer-reviewed program under which the Director, in close coordination with and as a complement to related activities of the United States Geological Survey, awards grants to, or enters into cooperative agreements with, State and local governments and persons or entities from the academic community and the private sector.
- (2) There are authorized to be appropriated to the United States Geological Survey for carrying out this title—
- (A) \$77,000,000 for fiscal year 2005, of which not less than \$30,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System established under section 13;
 - (B) \$84,410,000 for fiscal year 2006, of which not less than \$36,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System established under section 13;
 - (C) \$85,860,000 for fiscal year 2007, of which not less than \$36,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System established under section 13;
 - (D) \$87,360,000 for fiscal year 2008, of which not less than \$36,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System established under section 13; and
 - (E) \$88,900,000 for fiscal year 2009, of which not less than \$36,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System established under section 13.
- (3) *There are authorized to be appropriated to the United States Geological Survey for carrying out this Act—*
- (A) *\$90,000,000 for fiscal year 2011, of which \$36,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System;*
 - (B) *\$92,100,000 for fiscal year 2012, of which \$37,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System;*
 - (C) *\$94,263,000 for fiscal year 2013, of which \$38,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System;*
 - (D) *\$96,491,000 for fiscal year 2014, of which \$39,000,000 shall be made available for completion of the*

Advanced National Seismic Research and Monitoring System; and

(E) \$98,786,000 for fiscal year 2015, of which \$40,000,000 shall be made available for completion of the Advanced National Seismic Research and Monitoring System.

(c) NATIONAL SCIENCE FOUNDATION.—

(1) To enable the Foundation to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated to the Foundation not to exceed \$27,500,000 for the fiscal year ending September 30, 1978; not to exceed \$35,000,000 for the fiscal year ending September 30, 1979; not to exceed \$40,000,000 for the fiscal year ending September 30, 1980; \$26,600,000 for the fiscal year ending September 30, 1981; \$27,150,000 for the fiscal year ending September 30, 1982; \$25,000,000 for the fiscal year ending September 30, 1983; \$25,800,000 for the fiscal year ending September 30, 1984; \$28,665,000 for the fiscal year ending September 30, 1985[.] \$27,760,000 for the fiscal year ending September 30, 1986; \$29,009,000 for the fiscal year ending September 30, 1987; \$28,235,000 for the fiscal year ending September 30, 1988; \$31,634,000 for the fiscal year ending September 30, 1989; \$38,454,000 for the fiscal year ending September 30, 1990. Of the amounts authorized for Engineering under section 101(d)(1)(B) of the National Science Foundation Authorization Act of 1988, \$24,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991, and of the amounts authorized for Geosciences under section 101(d)(1)(D) of the National Science Foundation Authorization Act of 1988, \$13,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991. Of the amounts authorized for Research and Related Activities under section 101(e)(1) of the National Science Foundation Authorization Act of 1988, \$29,000,000 is authorized for engineering research under this Act, and \$14,750,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1992. Of the amounts authorized for Research and Related Activities under section 101(f)(1) of the National Science Foundation Authorization Act of 1988, \$34,500,000 is authorized for engineering research under this Act, and \$17,500,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Science Foundation: (1) \$16,200,000 for engineering research and \$10,900,000 for geosciences research for the fiscal year ending September 30, 1995, (2) \$16,686,000 for engineering research and \$11,227,000 for geosciences research for the fiscal year ending September 30, 1996, (3) \$18,450,000 for engineering research and \$11,920,000 for geosciences research for the fiscal year ending September 30, 1998, (4) \$19,000,000 for engineering research and \$12,280,000 for geosciences research for the fiscal year ending September 30, 1999. There are authorized to be appropriated to the National Science Foundation \$19,000,000 for engineering research and \$11,900,000 for geosciences research for fiscal year 2001; \$19,808,000 for engineer-

ing research and \$12,406,000 for geosciences research for fiscal year 2002; and \$20,650,000 for engineering research and \$12,933,000 for geosciences research for fiscal year 2003.

(2) There are authorized to be appropriated to the National Science Foundation for carrying out this title—

- (A) \$38,000,000 for fiscal year 2005;
- (B) \$39,140,000 for fiscal year 2006;
- (C) \$40,310,000 for fiscal year 2007;
- (D) \$41,520,000 for fiscal year 2008; and
- (E) \$42,770,000 for fiscal year 2009.

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

- (A) \$64,125,000 for fiscal year 2011;
- (B) \$66,049,000 for fiscal year 2012;
- (C) \$68,030,000 for fiscal year 2013;
- (D) \$70,071,000 for fiscal year 2014; and
- (E) \$72,173,000 for fiscal year 2015.

(d) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—

(1) To enable the National Institute of Standards and Technology to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated \$425,000 for the fiscal year ending September 30, 1981; \$425,000 for the fiscal year ending September 30, 1982; \$475,000 for the fiscal year ending September 30, 1983; \$475,000 for the fiscal year ending September 30, 1984; \$498,750 for the fiscal year ending September 30, 1985[;] \$499,000 for the fiscal year ending September 30, 1986; \$521,000 for the fiscal year ending September 30, 1987; \$525,000 for the fiscal year ending September 30, 1988; \$525,000 for the fiscal year ending September 30, 1989; \$2,525,000 for the fiscal year ending September 30, 1990; \$1,000,000 for the fiscal year ending September 30, 1991; \$3,000,000 for the fiscal year ending September 30, 1992; and \$4,750,000 for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Institute of Standards and Technology, \$1,900,000 for the fiscal year ending September 30, 1995, \$1,957,000 for the fiscal year ending September 30, 1996, \$2,000,000 for the fiscal year ending September 30, 1998, \$2,060,000 for the fiscal year ending September 30, 1999, \$2,332,000 for fiscal year 2001, \$2,431,000 for fiscal year 2002, and \$2,534,300 for fiscal year 2003.

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

- (A) \$10,000,000 for fiscal year 2005,
- (B) \$11,000,000 for fiscal year 2006,
- (C) \$12,100,000 for fiscal year 2007,
- (D) \$13,310,000 for fiscal year 2008, and
- (E) \$14,640,000 for fiscal year 2009, of which \$2,000,000 shall be made available each such fiscal year for supporting the development of performance-based, cost-effective, and affordable codes for buildings, structures, and lifelines.

(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 2011;*
- (B) *\$7,700,000 for fiscal year 2012;*
- (C) *\$7,931,000 for fiscal year 2013;*
- (D) *\$8,169,000 for fiscal year 2014; and*
- (E) *\$8,414,000 for fiscal year 2015.*

(e), (f) [Repealed]

SEC. 14. NETWORK FOR EARTHQUAKE ENGINEERING SIMULATION.

[42 U.S.C. 7708]

[(a) ESTABLISHMENT.—]The Director of the National Science Foundation shall establish the George E. Brown, Jr. Network for Earthquake Engineering Simulation that will upgrade, link, and integrate a system of geographically distributed experimental facilities for earthquake engineering testing of full-sized structures and their components and partial-scale physical models. The system shall be integrated through networking software so that integrated models and databases can be used to create model-based simulation, and the components of the system shall be interconnected with a computer network and allow for remote access, information sharing, and collaborative research.

[(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

[SEC. 202. FINDINGS.

[42 U.S.C. 15701]

[(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.

[42 U.S.C. 15703]

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*.

(2) **PROGRAM.**—The term “Program” means the National Windstorm Impact Reduction Program established by section 204(a).

(3) **STATE.**—The term “State” means each of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

(4) **WINDSTORM.**—The term “windstorm” means any storm with a damaging or destructive wind component, such as a hurricane, tropical storm, tornado, or thunderstorm.

[SEC. 204. NATIONAL WINDSTORM IMPACT REDUCTION PROGRAM.

[42 U.S.C. 15703]

[(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 coordinated 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, consistent with the Agency's all hazards approach, 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) working 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) developing and disseminating guidelines for the construction of windstorm shelters.

Nothing in this Act shall be construed to diminish the role and responsibility of the Federal Emergency Management Agency with regard to all hazards preparedness, response, recovery, and mitigation.

(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, and, to the extent possible, ensure that such maps and other derivative products are developed consistent with the multihazard advisory maps authorized by section 203(k) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5133(k));*

(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. 205. NATIONAL ADVISORY COMMITTEE ON WINDSTORM IMPACT REDUCTION.

[42 U.S.C. 15704]

[(a) ESTABLISHMENT.—The Director shall establish a National Advisory Committee on Windstorm Impact Reduction, consisting of not less than 11 and not more than 15 non-Federal members representing a broad cross section of interests such as the research, technology transfer, design and construction, and financial communities; materials and systems suppliers; State, county, and local governments; the insurance industry; and other representatives as designated by the Director.

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

[(1) trends and developments in the science and engineering of windstorm impact reduction;

[(2) the effectiveness of the Program in carrying out the activities under section 204(d);

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

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

[(c) BIENNIAL REPORT.—At least once every two years, the Advisory Committee shall report to Congress and the Interagency Working Group on the assessment carried out under subsection (b).]

(a) ESTABLISHMENT.—The Director shall establish a commission to be known as the “National Advisory Committee on Windstorm Impact Reduction” (hereafter in this section referred to as the “Advisory Committee”).

(b) MEMBERSHIP.—

(1) COMPOSITION.—The Advisory Committee shall be composed of not fewer than 7 members selected by the Director—

(A) from research and academic institutions, industry standards development organizations, emergency management agencies, State and local government, and business communities;

(B) who represent all related scientific, architectural, and engineering disciplines; and

(C) who are qualified to provide advice on windstorm impact reduction.

(2) PROHIBITION.—A member of the Advisory Committee may not be an employee of the Federal Government.

(c) DUTIES.—The Advisory Committee shall develop recommendations for Federal agencies on implementation of the Program.

(d) SUNSET EXEMPTION.—Section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Committee established under this section.

[SEC. 207. AUTHORIZATION OF APPROPRIATIONS.

[42 U.S.C. 15706]

[(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 2011;
- (2) \$9,972,500 for fiscal year 2012;
- (3) \$10,271,600 for fiscal year 2013;
- (4) \$10,579,800 for fiscal year 2014; and
- (5) \$10,897,200 for fiscal year 2015.

(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 2011;
- (2) \$9,972,500 for fiscal year 2012;
- (3) \$10,271,600 for fiscal year 2013;
- (4) \$10,579,800 for fiscal year 2014; and
- (5) \$10,897,200 for fiscal year 2015.

(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 2011;
- (2) \$4,243,600 for fiscal year 2012;
- (3) \$4,370,900 for fiscal year 2013;
- (4) \$4,502,000 for fiscal year 2014; and
- (5) \$4,637,100 for fiscal year 2015.

(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 2011;
- (2) \$2,334,000 for fiscal year 2012;
- (3) \$2,404,000 for fiscal year 2013;
- (4) \$2,476,100 for fiscal year 2014; and
- (5) \$2,550,400 for fiscal year 2015.

NATIONAL CONSTRUCTION SAFETY TEAM ACT

SEC. 2. NATIONAL CONSTRUCTION SAFETY TEAMS.

[15 U.S.C. 7301]

(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;

(B) evaluate the technical aspects of evacuation and emergency response procedures;

(C) recommend, as necessary, specific improvements to building standards, codes, and practices based on the findings made pursuant to subparagraphs (A) and (B); and

(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) regarding conflicts of interest related to service on the Team;

(B) defining the circumstances under which the Director will establish and deploy a Team;

(C) prescribing the appropriate size of Teams;

(D) guiding the disclosure of information under section 7;

(E) guiding the conduct of investigations under this Act, including procedures for providing written notice of inspection authority under section 4(a) and for ensuring compliance with any other applicable law;

(F) identifying and prescribing appropriate conditions for the provision by the Director of additional resources and services Teams may need;

(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;

(H) for regular briefings of the public on the status of the investigative proceedings and findings;

(I) guiding the Teams in moving and preserving evidence as described in section 4(a)(4), (b)(2), and (d)(4);

(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

(K) regarding such other issues as the Director considers appropriate.

(2) PUBLICATION.—The Director shall publish promptly in the Federal Register final procedures, and subsequent updates thereof, developed under paragraph (1).

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SEC. 4. AUTHORITIES.

[15 U.S.C. 7303]

(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);

(2) during reasonable hours, inspect any record (including any design, construction, or maintenance record), process, or facility related to the investigation;

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

(4) move such records, components, materials, and artifacts as provided by the procedures developed under section 2(c)(1).

(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.

(3) MEMORANDA OF UNDERSTANDING.—The National Institute of Standards and Technology shall enter into a memorandum of understanding with each Federal agency that may conduct or sponsor a related investigation, providing for coordination of investigations.

(4) WITH STATE AND LOCAL AUTHORITIES.—A Team shall cooperate with State and local authorities carrying out any activities related to a Team's investigation.

(d) INTERAGENCY PRIORITIES.—

[(1) IN GENERAL.—Except as provided in paragraph (2) or (3), a Team investigation shall have priority over any other investigation of any other Federal agency.]

(1) *IN GENERAL.—Except as otherwise provided in this subsection, a Team investigation shall have priority over any other investigation which is related to the purpose and duties set forth in section 2(b) and undertaken by any other Federal agency.*

(2) NATIONAL TRANSPORTATION SAFETY BOARD.—If the National Transportation Safety Board is conducting an investigation related to an investigation of a Team, the National Transportation Safety Board investigation shall have priority over the Team investigation. Such priority shall not otherwise affect the authority of the Team to continue its investigation under this Act.

(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 [build-

ing] *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.

(5) *INFRASTRUCTURE INVESTIGATIONS.*—*With respect to an investigation relating to an infrastructure failure, a Federal agency with primary jurisdiction over the failed infrastructure which is conducting an investigation and asserts priority over the Team investigation shall have such priority. Such priority shall not otherwise affect the authority of the Team to continue its investigation under this Act.*

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SEC. 7. DISCLOSURE OF INFORMATION.

[15 U.S.C. 7306]

(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].

(b) **EXCEPTIONS.**—Subsection (a) does not require the release of—

(1) information described by section 552(b) of title 5, United States Code, or protected from disclosure by any other law of the United States; or

(2) information described in subsection (a) by the National Institute of Standards and Technology or by a Team until the report required by section 8 is issued.

(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.

(d) **PUBLIC SAFETY INFORMATION.**—A Team and the National Institute of Standards and Technology shall not publicly release any information it receives in the course of an investigation under this Act if the Director finds that the disclosure of that information might jeopardize public safety.

SEC. 8. NATIONAL CONSTRUCTION SAFETY TEAM REPORT.

[15 U.S.C. 7307]

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;

(2) any technical recommendations for changes to or the establishment of evacuation and emergency response procedures;

(3) any recommended specific improvements to building standards, codes, and practices; and

(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.

[15 U.S.C. 7308]

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) conduct, or enable or encourage the conducting of, appropriate research recommended by the Team; and

(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) technical aspects of evacuation and emergency response procedures;

(B) specific improvements to building standards, codes, and practices; and

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

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

[15 U.S.C. 7309]

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) a summary of the investigations conducted by Teams during the prior fiscal year;

(2) a summary of recommendations made by the Teams in reports issued under section 8 during the prior fiscal year and a description of the extent to which those recommendations have been implemented; and

(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.

[15 U.S.C. 7310]

(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.

(b) ANNUAL REPORT.—On January 1 of each year, the advisory committee 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) an evaluation of Team activities, along with recommendations to improve the operation and effectiveness of Teams; and

(2) an assessment of the implementation of the recommendations of Teams and of the advisory committee.

(c) DURATION OF ADVISORY COMMITTEE.—Section 14 of the Federal Advisory Committee Act shall not apply to the advisory committee established under this section.

[SEC. 12. ADDITIONAL APPLICABILITY.

[15 U.S.C. 7311]

【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.】

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NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
ACT

SEC. 16. FIRE RESEARCH CENTER.

[15 U.S.C. 278f]

(a) ESTABLISHMENT; PROGRAMS OF RESEARCH; FUNCTIONS OF SECRETARY; DISSEMINATION OF INFORMATION.—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 the 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) the physics and chemistry of combustion processes;
(B) the dynamics of flame ignition, flame spread, and flame extinguishment;

(C) the composition of combustion products developed by various sources and under various environmental conditions;

(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;

(F) the unique fire hazards arising from the transportation and use, in industrial and professional practices, of combustible gases, fluids, and materials;

(G) design concepts for providing increased fire safety consistent with habitability, comfort, and human impact in buildings and other structures;

(H) such other aspects of the fire process as may be deemed useful in pursuing the objectives of the fire research program; and

(I) methods, procedures, and equipment for arson prevention, detection, and investigation;

(2) research into the biological, physiological, and psychological factors affecting human victims of fire, and the performance of individual members of fire services, including—

(A) the biological and physiological effects of toxic substances encountered in fires;

(B) the trauma, cardiac conditions, and other hazards resulting from exposure to fire;

(C) the development of simple and reliable tests for determining the cause of death from fires;

(D) improved methods of providing first aid to victims of fires;

(E) psychological and motivational characteristics of persons who engage in arson, and the prediction and cure of such behavior;

(F) the conditions of stress encountered by firefighters, the effects of such stress, and the alleviation and reduction of such conditions; and

(G) such other biological, psychological, and physiological effects of fire as have significance for purposes of control or prevention of fires; and

(3) operation tests, demonstration projects, and fire investigations in support of the activities set forth in this section. The Secretary shall insure that the results and advances arising from the work of the research program are disseminated broadly. He shall encourage the incorporation, to the extent applicable and practicable, of such results and advances in building codes, fire codes, and other relevant codes, test methods, fire service operations and training, and standards. The Secretary is authorized to encourage and assist in the development and adoption of uniform codes, test methods, and standards aimed at reducing fire losses and costs of fire protection.

(b) AUTHORIZATION OF APPROPRIATIONS.—For purposes of this section, there are authorized to be appropriated an amount not to exceed \$5,650,000 for the fiscal year ending September 30, 1980, which amount includes—

(1) \$525,000 for programs which are recommended in the report submitted to the Congress by the Administrator of the United States Fire Administration pursuant to section 24(b)(1) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2220(b)(1)[]); and

(2) \$119,000 for adjustments required by law in salaries, pay, retirement, and employee benefits.

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