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107TH CONGRESS
1ST SESSION

H. R. 3592

To reduce the impacts of hurricanes, tornadoes, and related natural hazards through a program of research and development and technology transfer, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 20, 2001

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

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A BILL

To reduce the impacts of hurricanes, tornadoes, and related natural hazards through a program of research and development and technology transfer, and for other purposes.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Hurricane, Tornado, and Related Natural Hazards Research Act''.

SEC. 2. FINDINGS.

The Congress finds the following:

(1) Natural disasters cause enormous loss of life. Almost all States and territories are at risk from the effects of 1 or more types of natural disaster. Coastal States and many island States and territories are vulnerable to the hazards of windstorms. All Midwest, Southern, and Mid-Atlantic States are vulnerable to the hazards of tornadoes and thunderstorms and increased building activity is occurring in high-risk areas such as the seashore and ''tornado alley''.

(2) Hurricanes, which combine high winds and flooding, and related natural disasters cause enormous loss of life, injury, destruction of property, and economic and social disruption, as evidenced by the 56 deaths and $6,000,000,000 in property damage in 1999 from Hurricane Floyd. From 1990 to 1999 hurricanes caused an average of 14 deaths and $4,970,000,000 in property losses annually while tornadoes and other windstorms caused over 58 deaths and $871,000,000 in property losses annually.

(3) Improved windstorm and related natural hazard reduction measures have the potential over the next 10 years to reduce these losses that will only increase if steps are not taken to help commu-

nities reduce their vulnerability. These measures include—

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

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

(C) informed land use decisions;

(D) impact prediction methodologies and early warning systems;

(E) application of research results; and

(F) public education and outreach programs.

(4) Engineering research needs to address both improving new structures and retrofitting existing ones.

(5) There is an appropriate role for the Federal Government in the collection, preparation, coordination, and dissemination of windstorm and related natural hazards reduction information in order to protect public health and safety and in increasing public awareness of the dangers of these hazards and of affordable steps homeowners can take to preserve life and property. Improved outreach and implementation mechanisms are needed to translate existing information and research findings into usable,

state-of-the-art specifications, criteria, and cost-effective practices for design and construction professionals, State and local officials, manufacturers, and the public.

(6) An effective Federal program in windstorm and related natural hazard reduction will require interagency coordination, input from individuals and institutions outside the Federal Government who are expert in the sciences of natural hazards reduction and in the practical application of mitigation measures, and improved mechanisms for the transfer of new knowledge to State and local officials, to homeowners, and to the design and construction industry. Tax credits are an effective incentive for helping homeowners apply mitigation measures.

(7) Windstorms and related natural hazards are a worldwide problem, and international cooperation is desirable for mutual learning and mitigation.

SEC. 3. DEFINITIONS.

In this Act:

(1) The term ''Director'' means the Director of the Office of Science and Technology Policy.

(2) The term ''related natural hazards'' means any naturally destructive environmental phenomena

related to windstorms such as flooding, wildfires, and hail.

(3) 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) The term ''windstorm'' means any storm with a damaging or destructive wind component, such as a hurricane, tropical storm, tornado, or thunderstorm.

SEC. 4. NATIONAL WINDSTORM AND RELATED NATURAL HAZARD IMPACT REDUCTION PROGRAM.

(a) INTERAGENCY GROUP.—Not later than 90 days after the date of the enactment of this Act, the Director shall establish an Interagency Group consisting of representatives of appropriate Federal agencies, including the National Science Foundation, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, the Department of Energy, and other agencies with jurisdiction over housing, construction, and natural disaster mitigation and relief, to be responsible for the development and implementation of a

coordinated Federal windstorm and related natural hazards reduction research, development, and technology transfer program based on identified public needs. In establishing the Interagency Group, the Director is encouraged, where appropriate, to designate lead agencies and to preserve existing programs and functions of Federal agencies and organizations, and shall ensure regular agency coordination and information sharing.

(b) OBJECTIVE.—The objective of the windstorm and related natural hazard impact reduction program is the achievement, within 10 years after the date of the enactment of this Act, of major measurable reductions in losses that would otherwise have occurred to life and property from windstorms and related natural hazards. The objective is to be achieved through the creation of a program involving cooperation among governments at all levels and the private sector featuring—

(1) pertinent basic research and applied research based on identified public needs, which takes into account locality-specific weather, susceptibility to natural hazards, design and construction practices, and performance of the built environment during windstorms and related natural hazards;

(2) better understanding of costs and benefits associated with natural hazard impact reduction;

(3) systematic collection of physical and performance data for buildings and other structures for use in developing and deploying mitigation measures;

(4) an ongoing program of information dissemination on cost-effective and affordable hazard reduction research results and hazard-resistant building construction techniques to industry, State and local governments, homeowners, and the general public;

(5) improved technology for loss estimation, risk assessment, hazard identification, prediction, warnings, advanced planning, and disaster response;

(6) increased public awareness of the dangers of windstorms and related natural hazards, and the value of taking preventative action to preserve affected property and life; and

(7) priority attention to critical lifelines, including infrastructure and utilities, that are especially needed in time of disaster.

(c) RESEARCH AND DEVELOPMENT ELEMENTS.—The research and development elements of the program may include—

(1) peer-reviewed research and development on and demonstration of disaster-resistant systems, based on identified public needs, and materials for

new construction and retrofit of existing construction, including composite materials; building envelope components, including windows, doors, and roofs; structural design; and design and construction techniques, through physical testing and postdisaster assessments, and through computer simulation when appropriate, taking into consideration life safety and cost-effectiveness, affordability, and regional differences including susceptibility to windstorm and related natural hazards;

(2) development of quantitative assessment techniques to evaluate the direct, indirect, and societal costs and benefits associated with natural hazards, including exploration of mitigation measures that could reduce windstorm vulnerability, and to effectively exploit existing and developing mitigation techniques;

(3) development of mechanisms for collecting and inventorying information on building systems and materials performance in windstorms and related natural hazards, information on identified public mitigation priorities, and other pertinent information from sources such as the construction industry, insurance companies, and building officials;

(4) development of cost-effective and affordable planning, design, construction, rehabilitation, and retrofit methods and procedures, including utilization of mitigation measures, for critical lifelines and facilities such as hospitals, schools, public utilities, and other structures that are especially needed in time of disaster;

(5) research and development on wind characterization and micro-climates and on techniques, methodologies, and new technologies for the mapping in finer detail of windstorms and related natural hazard risks, to be coordinated with the mapping of other natural and manmade hazards;

(6) development of improved loss estimation and risk assessment systems for predicting and evaluating damaging windstorm impacts and for identifying, evaluating, and reliably characterizing windstorm hazards; and

(7) development of improved approaches for providing emergency services, reconstruction, and redevelopment after a windstorm or related natural hazard event.

(d) TECHNOLOGY TRANSFER.—The technology transfer elements of the program shall include—

(1) the collection, classification, presentation, and dissemination in a usable form to Federal, State, and local officials, community leaders, the design and construction industry, contractors, home owners, and the general public, of research results, cost-effective construction techniques, loss estimation and risk assessment methodologies, and other pertinent information regarding windstorm phenomena, the identification of locations and features which are especially susceptible to natural hazard damage, ways to reduce the adverse consequences of natural hazards, and related matters;

(2) in coordination with the private sector, academia, and the States, curriculum development and related measures to facilitate the training of employees of the design and construction industry, the insurance industry, and State and local governments, and other interested persons; and

(3) development of an outreach effort to increase public and community awareness, including information related to windstorm and related natural hazard mitigation.

(e) IMPLEMENTATION PLAN.—The Interagency Group established under subsection (a) shall refine, in conjunction with appropriate representatives of State and

local units of government and private sector organizations, the objective stated in subsection (b), develop measurements related to the objective, including emphasis on safety, cost-effectiveness, and affordability, and develop a 10-year implementation plan for achieving the objective with a strategic review of goals and objectives every 3 years, working in coordination with the private sector and State and local government for implementation in all appropriate instances. Not later than 210 days after the date of the enactment of this Act, the Interagency Group shall submit to the Congress the implementation plan. The plan shall include—

(1) a statement of strategic research and development goals and priorities;

(2) plans for the development of improved forecasting techniques for windstorms, early warning systems, and systems for comprehensive response;

(3) plans for the development of a systematic method for collecting an inventory of buildings, building components, and damage to buildings from natural hazards;

(4) a strategy to implement the transfer of technology and information to State, county, local, and regional governmental units and the private sec-

tor for appropriate implementation of research and development results;

(5) provisions for outreach and dissemination, on a timely basis, of—

(A) information and technology in a form that is of use to the design professions, the construction industry, and other interested parties; and

(B) other information and knowledge of interest to the public to reduce vulnerability to wind and related natural hazards;

(6) a description of how Federal disaster relief and emergency assistance programs will incorporate research and development results;

(7) establishment, consistent with this Act, of goals, priorities, and target dates for implementation of the program;

(8) assignment of responsibilities with respect to each element of the program that does not already have a Federal lead agency;

(9) a description of plans for cooperation and coordination in all phases of the program with interested governmental entities in all States, particularly those containing areas of high or moderate wind and related natural hazard risk; and

(10) staffing plans for the program and its components.

(f) PARTICIPATION.—The implementation plan shall complement existing Federal research programs and shall avoid duplication of existing programs including earthquake programs whenever possible and assign responsibilities to Federal agencies with existing expertise.

(g) BUDGET COORDINATION.—The Director shall each year, after consulting with the Interagency Group established under section 4(a), provide guidance to the other program agencies concerning the preparation of requests for appropriations for activities related to this Act, and shall prepare, in conjunction with the other program agencies, an annual program budget to be submitted to the Office of Management and Budget. Each program agency shall include with its annual request for appropriations submitted to the Office of Management and Budget a report that—

(1) identifies each element of the proposed program activities of the agency;

(2) specifies how each of these activities contributes to the program; and

(3) states the portion of its request for appropriations allocated to each element of the program.

(h) MANUFACTURED HOUSING STANDARDS.—Nothing in this Act supersedes any provision of the National Manufactured Housing Construction and Safety Standards Act of 1974. No design, construction method, practice, technology, material, mitigation methodology, or hazard reduction measure of any kind developed under this Act shall be required for a home certified under section 616 of the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. 5415), pursuant to standards issued under such Act, without being subject to the consensus development process and rulemaking procedures of that Act.

SEC. 5. NATIONAL ADVISORY COMMITTEE FOR WINDSTORM AND RELATED NATURAL HAZARDS IMPACT REDUCTION.

(a) ESTABLISHMENT.—A National Advisory Committee shall be established to review progress made under the program established under section 4, advise on any improvements that should be made to that program, and report to the Congress on actions that have been taken to advance the Nation's capability to reduce the impacts of windstorm and related natural hazards.

(b) MEMBERSHIP.—The Advisory Committee shall be composed of no more than 21 members to be appointed by the President (one of whom shall be designated by the

President as chair). The members shall include representatives of a broad cross-section of interests such as the research, technology transfer, architectural, engineering, and financial communities; materials and systems suppliers; State, county, and local governments concerned with the reduction of windstorm and related natural hazards; the residential, multifamily, and commercial sectors of the construction industry; and the insurance industry, and other representatives (not including members of Federal agencies) from areas impacted by windstorms and related natural hazards.

(c) COORDINATION.—The Advisory Committee shall coordinate with existing advisory committees of the Federal Government and of the National Academies of Science and Engineering.

(d) ANNUAL REPORT.—The Advisory Committee shall provide a summary report to Congress each year.

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

SEC. 6. ANNUAL REPORT.

The Interagency Group established under section 4(a) shall, within 180 days after the end of each fiscal year, submit a report to the Congress describing the status of the windstorm and related natural hazards reduction

program, describing progress achieved during the preceding fiscal year, by government at all levels and by the private sector, toward achieving the objective stated in section 4(b) and implementing the plan developed under section 4(e), and including any amendments to the implementation plan. Each such report shall include any recommendations for legislative and other action the Interagency Group considers necessary and appropriate.

SEC. 7. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to carry out activities under this Act $25,000,000 for fiscal year 2003, $50,000,000 for fiscal year 2004, and $100,000,000 for fiscal year 2005.

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