

103^D CONGRESS
1ST SESSION

H. R. 1107

To establish a wind engineering research program within the National
Institute of Standards and Technology.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 24, 1993

Mr. LEWIS of Florida (for himself, Mr. GLICKMAN, Mr. JOHNSTON of Florida,
Mr. BACCHUS of Florida, and Mr. HASTINGS) introduced the following
bill; which was referred to the Committee on Science, Space, and Tech-
nology

A BILL

To establish a wind engineering research program within
the National Institute of Standards and Technology.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Wind Engineering
5 Research Program Act of 1993”.

6 **SEC. 2. FINDINGS.**

7 The Congress finds the following:

1 (1) Hurricanes and tornadoes kill more Ameri-
2 cans and destroy more property than any other nat-
3 ural disaster.

4 (2) Each year, in the United States, extreme
5 winds cause billions of dollars of damage to homes,
6 schools, and other buildings, roads and bridges, elec-
7 trical power distribution networks, and communica-
8 tions networks.

9 (3) Research on wind and wind engineering has
10 resulted in improved methods for making buildings
11 and other structures less vulnerable to extreme
12 winds, but additional research funding is needed to
13 develop new, improved, and more cost-effective
14 methods of wind-resistant construction.

15 (4) Federal funding for wind engineering re-
16 search has decreased drastically over the last 20
17 years.

18 (5) Wind research has been hampered by a lack
19 of data on near-surface wind speed and distribution
20 during hurricanes, tornadoes, and other severe
21 storms.

22 (6) Many existing methods for wind-resistant
23 construction are inexpensive and easy to implement
24 but often they are not applied because the construc-

1 tion industry and the general public are unaware of
2 such methods.

3 (7) Various Federal agencies have important
4 roles to play in wind engineering research, but at
5 present there is little interagency cooperation or co-
6 ordination in this area.

7 (8) Establishment of a Federal Wind Engineer-
8 ing Research Program would result in new tech-
9 nologies for wind-resistant construction, broader ap-
10 plication of such technologies in construction, and
11 ultimately reduced loss of life and property due to
12 extreme winds.

13 **SEC. 3. PURPOSE.**

14 The purpose of this Act is to create a Wind Engineer-
15 ing Research Program within the National Institute of
16 Standards and Technology, which would—

17 (1) provide for wind engineering research;

18 (2) serve as a clearinghouse for information on
19 wind engineering; and

20 (3) improve interagency coordination on wind
21 engineering research between the National Institute
22 of Standards and Technology, the National Oceanic
23 and Atmospheric Administration, the National
24 Science Foundation, the Federal Aviation Adminis-
25 tration, and other appropriate Federal agencies.

1 **SEC. 4. ESTABLISHMENT OF PROGRAM.**

2 Within the National Institute of Standards and Tech-
3 nology, there shall be established a Wind Engineering Re-
4 search Program which shall—

5 (1) conduct research and development, in co-
6 operation with the private sector and academia, on
7 new methods for mitigating wind damage due to
8 hurricanes, tornadoes, and other severe storms;

9 (2) coordinate research requiring the use of
10 wind tunnels with other Federal agencies having ap-
11 propriate facilities, such as the National Aeronautics
12 and Space Administration, for wind engineering re-
13 search;

14 (3) disseminate information on the application
15 of existing research results and methods for reduc-
16 ing wind damage to buildings that are usually in-
17 completely engineered or nonengineered, such as sin-
18 gle family dwellings, mobile homes, light industrial
19 buildings, and small commercial structures;

20 (4) transfer technology developed in wind engi-
21 neering research to the private sector so that it may
22 be applied in building codes, design practice, and
23 construction;

24 (5) conduct, in conjunction with the National
25 Oceanic and Atmospheric Administration, post-disas-
26 ter research following hurricanes, tornadoes, and

1 other severe storms to evaluate the vulnerability of
2 different types of buildings to extreme winds;

3 (6) serve as a point of contact for dissemination
4 of research information on wind engineering and
5 work with the private sector to develop education
6 and training programs on construction techniques
7 developed from research results for reducing wind
8 damage;

9 (7) work with the National Oceanic and Atmos-
10 pheric Administration, the Federal Aviation Admin-
11 istration, and other Federal agencies on meteorology
12 programs to collect and disseminate more data on
13 extreme wind events; and

14 (8) work with the National Science Foundation
15 to support and expand basic research on wind engi-
16 neering.

17 **SEC. 5. WIND ENGINEERING RESEARCH ADVISORY COM-**
18 **MITTEE.**

19 (a) ESTABLISHMENT.—Not later than 120 days after
20 the date of the enactment of this Act, the Director of the
21 National Institute of Standards and Technology shall es-
22 tablish an independent Wind Engineering Research Advi-
23 sory Committee (in this Act referred to as the “advisory
24 committee”).

1 (b) DUTIES.—The advisory committee shall provide
2 advice and recommendations to the Director of the Na-
3 tional Institute of Standards and Technology regarding
4 the needs, objectives, and plans with respect to the devel-
5 opment of the wind engineering research and development
6 plan referred to in section 6, including the role of other
7 Federal agencies in implementing the plan.

8 (c) MEMBERSHIP.—The advisory committee shall be
9 composed of members appointed by the Director of the
10 National Institute of Standards and Technology from
11 among individuals who are not employees of the Depart-
12 ment of Commerce and who are specially qualified to serve
13 on the advisory committee by virtue of their education,
14 training, or experience. A majority of the members of the
15 advisory committee shall be individuals with experience in
16 wind engineering research and development.

17 (d) TERMINATION.—The advisory committee shall
18 terminate within 60 days after the development of the plan
19 referred to in section 6.

20 **SEC. 6. WIND ENGINEERING RESEARCH AND DEVELOP-**
21 **MENT PLAN.**

22 (a) DEVELOPMENT.—Not later than one year after
23 the date of the establishment of the advisory committee,
24 the Director of the National Institute of Standards and
25 Technology shall develop an integrated plan (in this Act

1 referred to as the “plan”) for a national wind engineering
2 research and development program. The Director shall
3 consult with the Director of the National Science Founda-
4 tion and draw upon the recommendations of the advisory
5 committee in developing the plan.

6 (b) CONTENTS.—The plan referred to in subsection
7 (a) shall include—

8 (1) details of the wind engineering research and
9 development programs currently conducted by the
10 National Institute of Standards and Technology and
11 the National Science Foundation and how those pro-
12 grams can be integrated into the plan;

13 (2) details for each area of research and devel-
14 opment included in the plan, including appropriate
15 funding levels, a schedule with milestones, prelimi-
16 nary cost estimates, appropriate work scopes, per-
17 sonnel requirements, estimated costs and goals for
18 the next 5 years, and the role of other appropriate
19 Federal agencies, if any, in implementing the plan;

20 (3) a means to provide for the transfer to the
21 private sector of technology developed as a result of
22 wind engineering research, for use in building codes,
23 design practice, and construction; and

1 (4) details regarding how the program can be
2 conducted in cooperation with industry and the pri-
3 vate sector.

4 **SEC. 7. AUTHORIZATIONS.**

5 (a) AUTHORIZATION FOR NATIONAL INSTITUTE OF
6 STANDARDS AND TECHNOLOGY.—There are authorized to
7 be appropriated to the National Institute of Standards
8 and Technology for the purposes of this Act, \$1,000,000
9 for fiscal year 1994, \$3,000,000 for fiscal year 1995, and
10 \$5,000,000 for fiscal year 1996.

11 (b) COOPERATIVE AGREEMENTS.—Of the amounts
12 appropriated under subsection (a), no less than 50 percent
13 shall be used for cooperative agreements with the National
14 Oceanic and Atmospheric Administration, the National
15 Science Foundation, and Federal Aviation Administration,
16 or other agencies, for wind engineering research, develop-
17 ment of improved practices for structures, and the collec-
18 tion and dissemination of meteorological data needed for
19 wind engineering.

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