

Calendar No. 523

118TH CONGRESS
2D SESSION**S. 3606**

To reauthorize the Earthquake Hazards Reduction Act of 1977, and for other purposes.

 IN THE SENATE OF THE UNITED STATES

JANUARY 17, 2024

Mr. PADILLA (for himself, Ms. MURKOWSKI, Mr. WYDEN, Mr. MERKLEY, and Mr. TESTER) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

SEPTEMBER 24, 2024

Reported by Ms. CANTWELL, with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

A BILL

To reauthorize the Earthquake Hazards Reduction Act of 1977, and for other purposes.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Earthquake
5 Hazards Reduction Program Reauthorization Act of
6 2024”.

1 **SEC. 2. MODIFICATION OF FINDINGS.**

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

4 (1) in paragraph (1)—

5 (A) by striking “50 States, and the Com-
6 monwealth of Puerto Rico,” and inserting
7 “States and Tribal jurisdictions”;

8 (B) by striking “of them” and inserting
9 “States”; and

10 (C) by adding at the end the following:
11 “Almost half of the United States population
12 resides in areas that are at risk or experiencing
13 a damaging earthquake during the 50-year pe-
14 riod beginning on the date of the enactment of
15 the National Earthquake Hazards Reduction
16 Program Reauthorization Act of 2024”;

17 (2) in paragraph (2)—

18 (A) by inserting after the first sentence the
19 following: “A 2023 report by the Federal Emer-
20 gency Management Agency and the United
21 States Geological Survey (FEMA P-366) esti-
22 mates the annualized earthquake losses to the
23 national building stock is \$14,700,000,000 per
24 year and the total economic exposure to earth-
25 quake losses (buildings and contents) across the
26 nation is \$107,800,000,000,000.”; and

1 (~~B~~) in the third sentence—

2 (i) by striking “and construction” and
3 inserting “; construction, evaluation, and
4 retrofitting”;

5 (ii) by striking “and (~~E~~)” and insert-
6 ing the following: “(~~E~~) inventories of build-
7 ings and infrastructure with high seismic
8 risk, especially those that are critical to
9 community resilience, (~~F~~) programs that
10 require or incentivize replacement or ret-
11 rofit of existing buildings and infrastruc-
12 ture with high seismic risk, especially those
13 that are critical to community resilience,
14 and (~~G~~)”;

15 (~~3~~) in paragraph (~~3~~), by inserting “Tribal,”
16 after “local,”;

17 (~~4~~) in paragraph (~~4~~), by striking “could pro-
18 vide” and all that follows through the period at the
19 end and inserting “is necessary to provide the sci-
20 entific understanding needed to improve and expand
21 the earthquake early warning system.”;

22 (~~5~~) in paragraph (~~8~~), by striking “cave-ins” and
23 inserting “collapse”;

24 (~~6~~) in paragraph (~~9~~)—

1 (A) in the first sentence, by striking “and
2 local” and inserting “local, and Tribal govern-
3 ment”; and

4 (B) in the second sentence, by striking
5 “transfer knowledge and information to” and
6 inserting “exchange knowledge and information
7 between”; and

8 (C) in the third sentence, by striking
9 “specifications, criteria” and inserting “guide-
10 lines, codes, standards”;

11 (7) in paragraph (12)—

12 (A) in the second sentence—

13 (i) by striking “When earthquakes
14 occur, the built environment is generally”
15 and inserting “Relatively newer buildings
16 and infrastructure have generally been”;

17 (ii) by striking “and is” and inserting
18 “when earthquakes occur, but most are”;
19 and

20 (B) by adding at the end the following: “In
21 addition, buildings and infrastructure built to
22 older codes and standards may pose significant
23 risk of injury, loss of life, or irreparable dam-
24 age. A 2021 report submitted to Congress pur-
25 suant to section 8(b), as amended by section 5

1 of the National Earthquake Hazards Reduction
 2 Program Reauthorization Act of 2018 (Public
 3 Law 115–307), by the Federal Emergency
 4 Management Agency and the National Institute
 5 of Standards and Technology (FEMA P2090/
 6 NST SP–1254) provides recommendations for
 7 improving post-earthquake functional recovery
 8 time of the built environment to support com-
 9 munity resilience goals and many of these rec-
 10 ommendations still need to be implemented.”;
 11 and

12 ~~(8) in paragraph (13)—~~

13 ~~(A) in the first sentence, by inserting “in~~
 14 ~~2011” after “a study”;~~

15 ~~(B) in the second sentence, by inserting~~
 16 ~~“(in 2011 dollars)” after “\$300,000,000”; and~~

17 ~~(C) by adding at the end the following:~~

18 ~~“The cost of actual seismic retrofits to reduce~~
 19 ~~known risks is not included in such valuation.”.~~

20 **SEC. 3. MODIFICATION OF PURPOSE.**

21 Section 3 of the Earthquake Hazards Reduction Act
 22 of 1977 (42 U.S.C. 7702) is amended—

23 ~~(1) in paragraph (1)—~~

24 ~~(A) by striking “and local” and inserting~~

25 ~~“; local; and Tribal government”;~~ and

1 (B) by striking “locations and structures”
 2 and inserting “buildings and infrastructure”;
 3 (2) in paragraph (2)—

4 (A) by striking “and construction” and in-
 5 serting “, construction, evaluation, and retro-
 6 fitting”; and

7 (B) by inserting “housing and care facili-
 8 ties for vulnerable populations,” after “occu-
 9 pancy buildings”; and
 10 (3) in paragraph (4)—

11 (A) by striking “and local” and inserting
 12 “, local, and Tribal government”; and

13 (B) by striking “encourage consideration
 14 of” and inserting “incorporate”.

15 **SEC. 4. MODIFICATION OF DEFINITIONS.**

16 Section 4 of the Earthquake Hazards Reduction Act
 17 of 1977 (42 U.S.C. 7703) is amended—

18 (1) in paragraph (3), by inserting “, including
 19 secondary effects such as earthquake-caused
 20 tsunamis”; and

21 (2) by adding at the end the following:

22 “(11) The term ‘Tribal government’ has the
 23 meaning given the term ‘tribal government’ in sec-
 24 tion in section 421 of the Congressional Budget Act
 25 of 1974 (2 U.S.C. 658).

1 “(12) The term ‘functional recovery’ means a
 2 post-earthquake performance state in which a build-
 3 ing or lifeline infrastructure system is maintained,
 4 or restored, to safely and adequately support the
 5 basic intended functions associated with the pre-
 6 earthquake use or occupancy of a building, or the
 7 pre-earthquake service level of a lifeline infrastruc-
 8 ture system.”.

9 **SEC. 5. IMPROVEMENTS TO NATIONAL EARTHQUAKE HAZ-**
 10 **ARDS REDUCTION PROGRAM.**

11 (a) PROGRAM ACTIVITIES.—Subsection (a)(2) of sec-
 12 tion 5 of the Earthquake Hazards Reduction Act of 1977
 13 (42 U.S.C. 7704) is amended—

14 (1) in subparagraph (B)—

15 (A) in the matter before clause (i)—

16 (i) by striking “and local” and insert-
 17 ing “, local, and Tribal”; and

18 (ii) by striking “and constructing”
 19 and inserting “, designing, constructing,
 20 evaluating, and retrofitting”;

21 (B) in clause (ii), by striking “voluntary
 22 consensus codes for earthquake hazards reduc-
 23 tion” and inserting “consensus codes for earth-
 24 quake hazards reduction, including improved
 25 post-earthquake functional recovery”;

1 (C) in clause (iii), by striking “and haz-
2 ards reduction; and” and inserting “functional
3 recovery, and other hazards reduction topics;”;

4 (D) in clause (iv)—

5 (i) by inserting “and maintaining”
6 after “publishing”;

7 (ii) by inserting “tsunami suscepti-
8 bility,” after “liquefaction susceptibility,”;
9 and

10 (iii) by striking “; and” and inserting
11 a semicolon; and

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

13 “(v) development of best practices and
14 guidelines to create an inventory of and
15 conduct seismic performance evaluations of
16 buildings, structures, and lifeline infra-
17 structure with high seismic risk, especially
18 those that are critical to community resil-
19 ience; and

20 “(vi) the provision of technical assist-
21 ance upon request by a State, local, or
22 Tribal government regarding—

23 “(I) the creation of an inventory
24 of buildings, structures, and lifeline
25 infrastructure;

1 “~~(H)~~ the performance of seismic
2 performance evaluations; and

3 “~~(III)~~ cost-effective best practices
4 for retrofitting existing buildings,
5 structures, and lifeline infrastruc-
6 ture.”;

7 (2) in subparagraph (C), by striking “; and”
8 and inserting a semicolon;

9 (3) by redesignating subparagraph (D) as sub-
10 paragraph (E); and

11 (4) by inserting after subparagraph (C) the fol-
12 lowing:

13 “~~(D)~~ improve the understanding of—

14 “(i) the multiple hazards associated
15 with earthquakes, including liquefaction,
16 tsunamis, landslides, structural fires, and
17 the compounding effects of climate on
18 these hazards; and

19 “(ii) potential mitigation measures for
20 such hazards; and”.

21 (b) DUTIES OF INTERAGENCY COORDINATING COM-
22 MITTEE ON EARTHQUAKE HAZARDS REDUCTION.—Sub-
23 section (a)(3)(D)(ii) of such section is amended—

1 (1) in subclause (V), by inserting “and associ-
2 ated secondary hazards” before the period at the
3 end; and

4 (2) by adding at the end the following:

5 “(VIII) Coordinating with the
6 Chair of the Federal Communications
7 Commission on the timely broad-
8 casting of emergency alerts generated
9 by the earthquake early warning sys-
10 tem.”.

11 (e) BIENNIAL REPORT.—Subsection (a)(4)(A) of
12 such section is amended by striking “under paragraph
13 (3)(D)(i)(I)” each place it appears and inserting “under
14 paragraph (3)(D)(ii)(I)”.

15 (d) ADVISORY COMMITTEE.—Subsection (a)(5)(A) of
16 such section is amended—

17 (1) by striking “and local government” and in-
18 serting “; local, and Tribal governments”; and

19 (2) by inserting “social,” after “scientific,”.

20 (e) LEAD AGENCY FOR RESPONSIBILITIES OF PRO-
21 GRAM AGENCIES.—Subsection (b)(1) of such section is
22 amended—

23 (1) in subparagraph (A)—

24 (A) by striking “and local” and inserting

25 “local, and Tribal governments”; and

1 (~~B~~) by striking “plan and constructing”
2 and inserting “planning, designing, con-
3 structing, evaluating, and retrofitting”;

4 (~~2~~) by redesignating subparagraphs (~~C~~) and
5 (~~D~~) as subparagraphs (~~F~~) and (~~G~~), respectively; and

6 (~~3~~) by inserting after subparagraph (~~B~~) the fol-
7 lowing:

8 “(C) improve the understanding of earth-
9 quake-caused fires and support the development
10 of engineering tools and construction methods
11 that mitigate the risk of fire following earth-
12 quakes;

13 “(D) develop, in coordination with the Ad-
14 ministrator of the Federal Emergency Manage-
15 ment Agency, best practices and guidelines for
16 a State, local, or Tribal government to create
17 an inventory of buildings, structures, or lifeline
18 infrastructure that are critical to community re-
19 silience or otherwise have high seismic risk;

20 “(E) provide, in coordination with the Ad-
21 ministrator of the Federal Emergency Manage-
22 ment Agency, technical assistance to a State,
23 local, or Tribal government requesting such as-
24 sistance with respect to the creation of an in-

1 ventory of buildings, structures, or lifeline in-
2 frastructure;”.

3 (f) ~~RESPONSIBILITIES OF FEDERAL EMERGENCY~~
4 ~~MANAGEMENT AGENCY.~~—Subsection (b)(2) of such sec-
5 tion is amended—

6 (1) in subparagraph (A)—

7 (A) in clause (i)—

8 (i) by inserting “and Tribal govern-
9 ments” after “States”;

10 (ii) by striking “safety inspections”
11 and inserting “performance evaluations”;
12 and

13 (iii) by inserting “and improve post-
14 earthquake functional recovery” after
15 “seismic safety”;

16 (B) in clause (ii), by inserting “, including
17 Tribal entities,” after “appropriate audiences”;

18 (C) in clause (iii)—

19 (i) by striking “of seismic resistant”
20 and inserting “to all appropriate audi-
21 ences, including Tribal governments, of”;
22 and

23 (ii) by inserting “that enhance seismic
24 safety, improve post-earthquake functional

1 recovery, and reduce losses from earth-
 2 quakes” after “and lifeline infrastructure”;
 3 ~~(D)~~ in clause (iv)—

4 (i) in striking “and local” and insert-
 5 ing “, local, and Tribal”; and

6 (ii) by striking “; and” and inserting
 7 a semicolon;

8 ~~(E)~~ by redesignating clause (v) as clause
 9 (vi); and

10 ~~(F)~~ by inserting after clause (iv) the fol-
 11 lowing:

12 “(v) shall provide technical assistance
 13 to State, local, or Tribal governmental en-
 14 tities in the creation of evacuation plans in
 15 the event of an earthquake, landslide, tsu-
 16 nami, or other earthquake-related hazard;
 17 and”; and

18 ~~(2)~~ in subparagraph (B)—

19 (A) in the subparagraph heading, by in-
 20 serting “AND TRIBAL” after “STATE”;

21 (B) in the matter before clause (i), by in-
 22 serting “or Tribal government” after “State”;
 23 and

1 (C) in clause (i), by striking “safety” and
2 inserting “performance, community resilience,
3 or public awareness”.

4 (g) RESPONSIBILITIES OF UNITED STATES GEOLOGI-
5 CAL SURVEY.—Subsection (b)(3) of such section is
6 amended—

7 (1) in subparagraph (B), by striking “and
8 local” and inserting “, local, and Tribal”;

9 (2) in subparagraph (C), by inserting “, the
10 Chair of the Federal Communications Commission,”
11 after “Agency”;

12 (3) by redesignating subparagraphs (D)
13 through (K) as subparagraphs (J) through (O), re-
14 spectively;

15 (4) by inserting after subparagraph (C) the fol-
16 lowing:

17 “(D) coordinate with the Administrator of
18 the National Oceanic and Atmospheric Admin-
19 istration and the Administrator of the Federal
20 Emergency Management Agency on data shar-
21 ing and resource allocation to support a timely
22 response to oceanic earthquakes and tsunamis;

23 “(E) in consultation with the Chair of the
24 Federal Communications Commission, ensure
25 that earthquake alerts and early warnings are

1 broadcast as rapidly and reliably as possible, in
2 the predominant languages in the affected re-
3 gion, to ensure maximum warning time for
4 nearby persons;

5 “(F) expand the earthquake early warning
6 system within and to additional high earth-
7 quake hazard areas, including making improve-
8 ments as practicable to improve detection and
9 increase the time between warning messages
10 and perceptible ground motion;

11 “(G) coordinating with affected State and
12 Tribal governments on earthquake early warn-
13 ing system improvements;”;

14 (5) in subparagraph (H), as redesignated by
15 paragraph (3), by inserting “the Chair of the Fed-
16 eral Communications Commission,” after “Agency;”;

17 (6) in subparagraph (K), as redesignated by
18 paragraph (3), by striking “; and” and inserting a
19 semicolon;

20 (7) in subparagraph (L), as redesignated by
21 paragraph (3), by striking the period at the end and
22 inserting a semicolon; and

23 (8) in subparagraph (N), as redesignated by
24 paragraph (3), by inserting “maps of natural haz-
25 ards associated with earthquakes and”.

1 (h) RESPONSIBILITIES OF NATIONAL SCIENCE
 2 FOUNDATION.—Subsection (b)(4)(A) of such section is
 3 amended—

4 (1) in clause (iii), by inserting “including up-
 5 dated tsunami and liquefaction risk maps,”; and

6 (2) in clause (vii), by striking “Historically
 7 Black Colleges and Universities and those serving
 8 large proportions of Hispanics, Native Americans,
 9 Asian-Pacific Americans, and other underrep-
 10 resented populations” and inserting “institutions de-
 11 scribed in section 371(a) of the Higher Education
 12 Act of 1965 (20 U.S.C. 1067q(a))”.

13 **SEC. 6. SEISMIC PERFORMANCE PROPERTY STANDARDS.**

14 Section 947 of the Cranston-Gonzales National Af-
 15 fordable Housing Act (42 U.S.C. 7704a) is amended—

16 (1) in subsection (a), by striking “safety” both
 17 places it appears and inserting “performance”; and

18 (2) in subsection (b), by striking “shake-related
 19 property damage” and inserting “seismic-related
 20 property damage to improve the post-earthquake
 21 functional recovery time”.

22 **SEC. 7. SEISMIC STANDARDS.**

23 Section 8 of the Earthquake Hazards Reduction Act
 24 of 1977 (42 U.S.C. 7705b) is amended—

1 (1) in subsection (b), by striking “under para-
2 graph (1)” and inserting “under subsection (a)”;
3 and

4 (2) by adding at the end the following:

5 “(e) IMPLEMENTATION OF RECOMMENDATIONS.—
6 Each Program agency, as part of their Program respon-
7 sibilities, shall execute research, projects, grants, and
8 other activities that support, promote, advance, or other-
9 wise implement the recommendations in the report sub-
10 mitted pursuant to subsection (b) to improve the perform-
11 ance of the built environment in terms of post-earthquake
12 reoccupancy and functional recovery time.

13 “(d) BIENNIAL REPORTS.—

14 “(1) BIENNIAL REPORTS TO INTERAGENCY CO-
15 ORDINATING COMMITTEE.—No later than June 30,
16 2025, and not less frequently than once every 2
17 years thereafter, each Program agency shall submit
18 to the Interagency Coordinating Committee a report
19 on activities and progress made to support, promote,
20 or advance the implementation of the recommenda-
21 tions included in the report submitted pursuant to
22 subsection (b).

23 “(2) INCLUSION IN BIENNIAL REPORTS OF
24 INTERAGENCY COORDINATING COMMITTEE.—The
25 Interagency Coordinating Committee shall include

1 the information received under paragraph (1) in
 2 each biennial report submitted under section 5(a)(4),
 3 including consideration of a prioritized work plan to
 4 coordinate activities among the Program agencies
 5 and the necessary Program budget to fully imple-
 6 ment the recommendations described in paragraph
 7 (1).”.

8 **SEC. 8. IMPROVEMENTS TO POST-EARTHQUAKE INVES-**
 9 **TIGATIONS PROGRAM.**

10 Section 11 of the Earthquake Hazards Reduction Act
 11 of 1977 (42 U.S.C. 7705e) is amended, in the matter be-
 12 fore paragraph (1)—

13 (1) in the first sentence, by inserting “domestic
 14 and international” after “investigate major”; and

15 (2) in the fifth sentence, by inserting “Federal
 16 Emergency Management” before “Agency”.

17 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) **GENERAL AUTHORIZATION FOR PROGRAM.**—Sub-
 19 section (a)(8) of section 12 of the Earthquake Hazards
 20 Reduction Act of 1977 (42 U.S.C. 7706) is amended—

21 (1) in subparagraph (I), by striking “, and”
 22 and inserting a comma; and

23 (2) by inserting after subparagraph (J) the fol-
 24 lowing:

25 “(K) \$10,590,000 for fiscal year 2024,

1 “(L) \$10,590,000 for fiscal year 2025,
2 “(M) \$10,590,000 for fiscal year 2026,
3 “(N) \$10,590,000 for fiscal year 2027,
4 and
5 “(O) \$10,590,000 for fiscal year 2028.”.

6 (b) UNITED STATES GEOLOGICAL SURVEY.—Sub-
7 section (b)(2) of such section is amended—

8 (1) in subparagraph (I), by striking “; and”
9 and inserting a semicolon;

10 (2) in subparagraph (J), by striking the period
11 at the end and inserting a semicolon; and

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

13 “(K) \$100,900,000 for fiscal year 2024, of
14 which not less than \$36,000,000 shall be made
15 available for completion of the Advanced Na-
16 tional Seismic System established under section
17 13;

18 “(L) \$100,900,000 for fiscal year 2025, of
19 which not less than \$36,000,000 shall be made
20 available for completion of the Advanced Na-
21 tional Seismic System established under section
22 13;

23 “(M) \$100,900,000 for fiscal year 2026, of
24 which not less than \$36,000,000 shall be made
25 available for completion of the Advanced Na-

1 tional Seismic System established under section
2 13;

3 “(N) \$100,900,000 for fiscal year 2027, of
4 which not less than \$36,000,000 shall be made
5 available for completion of the Advanced Na-
6 tional Seismic System established under section
7 13; and

8 “(O) \$100,900,000 for fiscal year 2028, of
9 which not less than \$36,000,000 shall be made
10 available for completion of the Advanced Na-
11 tional Seismic System established under section
12 13.”.

13 (e) NATIONAL SCIENCE FOUNDATION.—Subsection
14 (e)(2) of such section is amended—

15 (1) in subparagraph (I), by striking “; and”
16 and inserting a comma;

17 (2) in subparagraph (J), by striking the period
18 at the end and inserting a comma; and

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

20 “(K) \$58,000,000 for fiscal year 2024,

21 “(L) \$58,000,000 for fiscal year 2025,

22 “(M) \$58,000,000 for fiscal year 2026,

23 “(N) \$58,000,000 for fiscal year 2027,

24 and

25 “(O) \$58,000,000 for fiscal year 2028.”.

1 (d) NATIONAL INSTITUTE OF STANDARDS AND
 2 TECHNOLOGY.—Subsection (d)(2) of such section is
 3 amended—

4 (1) in subparagraph (I), by striking “, and”
 5 and inserting a comma;

6 (2) in subparagraph (J), by striking the period
 7 at the end and inserting a comma; and

8 (3) by inserting after subparagraph (J) the fol-
 9 lowing:

10 “(K) \$5,900,000 for fiscal year 2024,

11 “(L) \$5,900,000 for fiscal year 2025,

12 “(M) \$5,900,000 for fiscal year 2026,

13 “(N) \$5,900,000 for fiscal year 2027, and

14 “(O) \$5,900,000 for fiscal year 2028.”.

15 **SECTION 1. SHORT TITLE.**

16 *This Act may be cited as the “National Earthquake*
 17 *Hazards Reduction Program Reauthorization Act of 2024”.*

18 **SEC. 2. MODIFICATION OF FINDINGS.**

19 *Section 2 of the Earthquake Hazards Reduction Act*
 20 *of 1977 (42 U.S.C. 7701) is amended—*

21 (1) in paragraph (1)—

22 (A) by striking “50 States, and the Com-
 23 *monwealth of Puerto Rico,”* and inserting
 24 *“States and Tribal jurisdictions”;*

1 (B) by striking “of them” and inserting
2 “States”; and

3 (C) by adding at the end the following: “Al-
4 most half of the United States population resides
5 in areas that are at risk or experiencing a dam-
6 aging earthquake during the 50-year period be-
7 ginning on the date of the enactment of the Na-
8 tional Earthquake Hazards Reduction Program
9 Reauthorization Act of 2024”;

10 (2) in paragraph (2)—

11 (A) by inserting after the first sentence the
12 following: “A 2023 report by the Federal Emer-
13 gency Management Agency and the United
14 States Geological Survey (FEMA P-366) esti-
15 mates the annualized earthquake losses to the na-
16 tional building stock is \$14,700,000,000 per year
17 and the total economic exposure to earthquake
18 losses (buildings and contents) across the nation
19 is \$107,800,000,000,000.”; and

20 (B) in the third sentence—

21 (i) by striking “and construction” and
22 inserting “, construction, evaluation, and
23 retrofitting”;

24 (ii) by striking “and (E)” and insert-
25 ing the following: “(E) inventories of build-

1 *ings and infrastructure with high seismic*
2 *risk, especially those that are critical to*
3 *community resilience, (F) programs that re-*
4 *quire or incentivize replacement or retrofit*
5 *of existing buildings and infrastructure*
6 *with high seismic risk, especially those that*
7 *are critical to community resilience, and*
8 *(G)”;*

9 *(3) in paragraph (3), by inserting “Tribal,”*
10 *after “local,”;*

11 *(4) in paragraph (4), by striking “could pro-*
12 *vide” and all that follows through the period at the*
13 *end and inserting “is necessary to provide the sci-*
14 *entific understanding needed to improve and expand*
15 *the earthquake early warning system.”;*

16 *(5) in paragraph (8), by striking “cave-ins” and*
17 *inserting “collapse”;*

18 *(6) in paragraph (9)—*

19 *(A) in the first sentence, by striking “and*
20 *local” and inserting “local, and Tribal govern-*
21 *ment”;* and

22 *(B) in the second sentence, by striking*
23 *“transfer knowledge and information to” and in-*
24 *serting “exchange knowledge and information be-*
25 *tween”;* and

1 (C) *in the third sentence, by striking “speci-*
2 *fications, criteria” and inserting “guidelines,*
3 *codes, standards”;*

4 (7) *in paragraph (12)—*

5 (A) *in the second sentence—*

6 (i) *by striking “When earthquakes*
7 *occur, the built environment is generally”*
8 *and inserting “Relatively newer buildings*
9 *and infrastructure have generally been”;*

10 (ii) *by striking “and is” and inserting*
11 *“when earthquakes occur, but most are”;*
12 *and*

13 (B) *by adding at the end the following: “In*
14 *addition, buildings and infrastructure built to*
15 *older codes and standards may pose significant*
16 *risk of injury, loss of life, or irreparable damage.*
17 *A 2021 report submitted to Congress pursuant to*
18 *section 8(b), as amended by section 5 of the Na-*
19 *tional Earthquake Hazards Reduction Program*
20 *Reauthorization Act of 2018 (Public Law 115–*
21 *307), by the Federal Emergency Management*
22 *Agency and the National Institute of Standards*
23 *and Technology (FEMA P2090/NST SP-1254)*
24 *provides recommendations for improving post-*
25 *earthquake functional recovery time of the built*

1 *environment to support community resilience*
2 *goals and many of these recommendations still*
3 *need to be implemented.”; and*

4 *(8) in paragraph (13)—*

5 *(A) in the first sentence, by inserting “in*
6 *2011” after “a study”;*

7 *(B) in the second sentence, by inserting “(in*
8 *2011 dollars)” after “\$300,000,000”; and*

9 *(C) by adding at the end the following:*
10 *“The cost of actual seismic retrofits to reduce*
11 *known risks is not included in such valuation.”.*

12 **SEC. 3. MODIFICATION OF PURPOSE.**

13 *Section 3 of the Earthquake Hazards Reduction Act*
14 *of 1977 (42 U.S.C. 7702) is amended—*

15 *(1) in paragraph (1)—*

16 *(A) by striking “and local” and inserting “,*
17 *local, and Tribal government”;* and

18 *(B) by striking “locations and structures”*
19 *and inserting “buildings and infrastructure”;*

20 *(2) in paragraph (2)—*

21 *(A) by striking “and construction” and in-*
22 *serting “, construction, evaluation, and retro-*
23 *fitting”;* and

1 (B) by inserting “housing and care facili-
2 ties for vulnerable populations,” after “occu-
3 pancy buildings”; and

4 (3) in paragraph (4)—

5 (A) by striking “and local” and inserting “,
6 local, and Tribal government”; and

7 (B) by striking “encourage consideration
8 of” and inserting “incorporate”.

9 **SEC. 4. MODIFICATION OF DEFINITIONS.**

10 Section 4 of the Earthquake Hazards Reduction Act
11 of 1977 (42 U.S.C. 7703) is amended—

12 (1) in paragraph (3), by inserting “, including
13 secondary effects such as earthquake-caused
14 tsunamis”; and

15 (2) by adding at the end the following:

16 “(11) The term ‘Tribal government’ has the
17 meaning given the term ‘tribal government’ in section
18 in section 421 of the Congressional Budget Act of
19 1974 (2 U.S.C. 658).

20 “(12) The term ‘functional recovery’ means a
21 post-earthquake performance state in which a build-
22 ing or lifeline infrastructure system is maintained, or
23 restored, to safely and adequately support the basic
24 intended functions associated with the pre-earthquake

1 *use or occupancy of a building, or the pre-earthquake*
 2 *service level of a lifeline infrastructure system.*

3 *“(13) The term ‘earthquake forecast’ means a*
 4 *statement of probabilities that 1 or more earthquakes*
 5 *within a clearly specified magnitude range may occur*
 6 *within a specified time interval and geographic re-*
 7 *gion.”.*

8 **SEC. 5. IMPROVEMENTS TO NATIONAL EARTHQUAKE HAZ-**
 9 **ARDS REDUCTION PROGRAM.**

10 *(a) PROGRAM ACTIVITIES.—Subsection (a)(2) of sec-*
 11 *tion 5 of the Earthquake Hazards Reduction Act of 1977*
 12 *(42 U.S.C. 7704) is amended—*

13 *(1) in subparagraph (B)—*

14 *(A) in the matter before clause (i)—*

15 *(i) by striking “and local” and insert-*
 16 *ing “, local, and Tribal”; and*

17 *(ii) by striking “and constructing”*
 18 *and inserting “, designing, constructing,*
 19 *evaluating, and retrofitting”;*

20 *(B) by amending clause (i) to read as fol-*
 21 *lows:*

22 *“(ii) development of standards, guide-*
 23 *lines, and voluntary standards, guidelines,*
 24 *and consensus codes for earthquake hazards*
 25 *reduction for buildings, structures, and life-*

1 *line infrastructure, including post-earth-*
2 *quake recovery-based performance objectives*
3 *that address reoccupancy and downtime of*
4 *community-prioritized buildings, structures,*
5 *and services provided by lifeline infrastruc-*
6 *ture;”;*

7 (C) *in clause (iii), by striking “and hazards*
8 *reduction; and” and inserting “functional recov-*
9 *ery, and other hazards reduction topics;”;*

10 (D) *in clause (iv)—*

11 (i) *by inserting “and maintaining”*
12 *after “publishing”;*

13 (ii) *by inserting “in coordination with*
14 *the National Tsunami Hazards Mitigation*
15 *Program, tsunami susceptibility,” after*
16 *“liquefaction susceptibility,”; and*

17 (iii) *by striking “; and” and inserting*
18 *a semicolon; and*

19 (E) *by adding at the end the following:*

20 “(v) *subject to the availability of funds,*
21 *development of best practices and guidelines*
22 *to create an inventory of and conduct seis-*
23 *mic performance evaluations of buildings,*
24 *structures, and lifeline infrastructure with*

1 *high seismic risk, especially those that are*
2 *critical to community resilience; and*

3 “*(vi) subject to the availability of*
4 *funds, the provision of technical assistance*
5 *upon request by a State, local, or Tribal*
6 *government regarding—*

7 “*(I) the creation of an inventory*
8 *of buildings, structures, and lifeline in-*
9 *frastructure;*

10 “*(II) the performance of seismic*
11 *performance evaluations; and*

12 “*(III) cost-effective best practices*
13 *for retrofitting existing buildings,*
14 *structures, and lifeline infrastructure.”;*

15 (2) *in subparagraph (C), by striking “; and”*
16 *and inserting a semicolon;*

17 (3) *by redesignating subparagraph (D) as sub-*
18 *paragraph (E); and*

19 (4) *by inserting after subparagraph (C) the fol-*
20 *lowing:*

21 “*(D) improve the understanding of—*

22 “*(i) the multiple hazards associated*
23 *with earthquakes, including liquefaction,*
24 *tsunamis, landslides, structural fires, and*

1 *the compounding effects of climate on these*
2 *hazards; and*

3 *“(ii) potential mitigation measures for*
4 *such hazards; and”.*

5 *(b) DUTIES OF INTERAGENCY COORDINATING COM-*
6 *MITTEE ON EARTHQUAKE HAZARDS REDUCTION.—Sub-*
7 *section (a)(3)(D)(ii) of such section is amended—*

8 *(1) in subclause (V), by inserting “and associ-*
9 *ated secondary hazards” before the period at the end;*
10 *and*

11 *(2) by adding at the end the following:*

12 *“(VIII) Coordinating with the*
13 *Chair of the Federal Communications*
14 *Commission on the timely broadcasting*
15 *of emergency alerts generated by the*
16 *earthquake early warning system.”.*

17 *(c) BIENNIAL REPORT.—Subsection (a)(4)(A) of such*
18 *section is amended by striking “under paragraph*
19 *(3)(D)(i)(I)” each place it appears and inserting “under*
20 *paragraph (3)(D)(ii)(I)”.*

21 *(d) ADVISORY COMMITTEE.—Subsection (a)(5)(A) of*
22 *such section is amended—*

23 *(1) by inserting “the Chair of the Scientific*
24 *Earthquake Studies Advisory Committee and” after*
25 *“including”;*

1 (2) by striking “and local government” and in-
2 serting “, local, and Tribal governments”; and

3 (3) by inserting “social,” after “scientific.”

4 (e) *LEAD AGENCY FOR RESPONSIBILITIES OF PRO-*
5 *GRAM AGENCIES.*—Subsection (b)(1) of such section is
6 amended—

7 (1) in subparagraph (A)—

8 (A) by striking “and local” and inserting
9 “local, and Tribal governments”; and

10 (B) by striking “plan and constructing”
11 and inserting “planning, designing, con-
12 structing, evaluating, and retrofitting”;

13 (2) by redesignating subparagraphs (C) and (D)
14 as subparagraphs (F) and (G), respectively; and

15 (3) by inserting after subparagraph (B) the fol-
16 lowing:

17 “(C) improve the understanding of earth-
18 quake-caused fires and support the development
19 of engineering tools and construction methods
20 that mitigate the risk of fire following earth-
21 quakes;

22 “(D) develop, in coordination with the Ad-
23 ministrator of the Federal Emergency Manage-
24 ment Agency, best practices and guidelines for a
25 State, local, or Tribal government to create an

1 *inventory of buildings, structures, or lifeline in-*
 2 *frastructure that are critical to community resil-*
 3 *ience or otherwise have high seismic risk;*

4 “(E) provide, in coordination with the Ad-
 5 *ministrators of the Federal Emergency Manage-*
 6 *ment Agency, technical assistance to a State,*
 7 *local, or Tribal government requesting such as-*
 8 *sistance with respect to the creation of an inven-*
 9 *tory of buildings, structures, or lifeline infra-*
 10 *structure;”.*

11 (f) *RESPONSIBILITIES OF FEDERAL EMERGENCY MAN-*
 12 *AGEMENT AGENCY.—Subsection (b)(2) of such section is*
 13 *amended—*

14 (1) *in subparagraph (A)—*

15 (A) *in clause (i)—*

16 (i) *by inserting “and Tribal govern-*
 17 *ments” after “States”;*

18 (ii) *by inserting “and performance*
 19 *evaluations” after “safety inspections”; and*

20 (iii) *by inserting “and improve post-*
 21 *earthquake functional recovery” after “seis-*
 22 *mic safety”;*

23 (B) *in clause (ii), by inserting “, including*
 24 *Tribal entities,” after “appropriate audiences”;*

25 (C) *in clause (iii)—*

1 (i) by striking “of seismic resistant”
 2 and inserting “to all appropriate audiences,
 3 including Tribal governments, of”; and

4 (ii) by inserting “that enhance seismic
 5 safety, improve post-earthquake functional
 6 recovery, and reduce losses from earth-
 7 quakes” after “and lifeline infrastructure”;
 8 (D) in clause (iv)—

9 (i) in striking “and local” and insert-
 10 ing “, local, and Tribal”; and

11 (ii) by striking “; and” and inserting
 12 a semicolon;

13 (E) by redesignating clause (v) as clause
 14 (vi); and

15 (F) by inserting after clause (iv) the fol-
 16 lowing:

17 “(v) shall provide technical assistance
 18 to State, local, or Tribal governmental enti-
 19 ties in the creation of evacuation plans in
 20 the event of an earthquake, landslide, tsu-
 21 nami, or other earthquake-related hazard;
 22 and”;

23 (2) in subparagraph (B)—

24 (A) in the subparagraph heading, by insert-
 25 ing “AND TRIBAL” after “STATE”;

1 (B) in the matter before clause (i), by in-
2 serting “or Tribal government” after “State”;
3 and

4 (C) in clause (i), by striking “safety” and
5 inserting “performance, community resilience, or
6 public awareness”.

7 (g) *RESPONSIBILITIES OF UNITED STATES GEOLOGI-*
8 *CAL SURVEY.*—Subsection (b)(3) of such section is amend-
9 *ed—*

10 (1) in subparagraph (B), by striking “and local”
11 and inserting “, local, and Tribal”;

12 (2) in subparagraph (C), by inserting “, the
13 Chair of the Federal Communications Commission,”
14 after “Agency”;

15 (3) by redesignating subparagraphs (D) through
16 (K) as subparagraphs (L) through (Q), respectively;

17 (4) by inserting after subparagraph (C) the fol-
18 lowing:

19 “(D) coordinate with the Administrator of
20 the National Oceanic and Atmospheric Adminis-
21 tration and the Administrator of the Federal
22 Emergency Management Agency on data sharing
23 and resource allocation to support a timely re-
24 sponse to oceanic earthquakes and tsunamis;

1 “(E) in consultation with the Chair of the
2 Federal Communications Commission, ensure
3 that earthquake alerts and early warnings are
4 broadcast as rapidly and reliably as possible, in
5 the predominant languages in the affected region,
6 to ensure maximum warning time for nearby
7 persons;

8 “(F) expand the earthquake early warning
9 system within and to additional high risk haz-
10 ard areas, including making improvements as
11 practicable to improve detection and increase the
12 time between warning messages and perceptible
13 ground motion;

14 “(G) coordinating with affected State and
15 Tribal governments on earthquake early warning
16 system improvements;

17 “(H) issue earthquake forecasts, when ap-
18 propriate, for aftershocks associated with signifi-
19 cant earthquakes in the United States;”;

20 (5) in subparagraph (I), as redesignated by
21 paragraph (3), by inserting “the Chair of the Federal
22 Communications Commission,” after “Agency;”;

23 (6) in subparagraph (L), as redesignated by
24 paragraph (3), by striking “; and” and inserting a
25 semicolon;

1 (7) in subparagraph (M), as redesignated by
2 paragraph (3), by striking the period at the end and
3 inserting a semicolon; and

4 (8) in subparagraph (O), as redesignated by
5 paragraph (3), by inserting “maps of natural hazards
6 associated with earthquakes and”.

7 (h) *RESPONSIBILITIES OF NATIONAL SCIENCE FOUN-*
8 *DATION.*—Subsection (b)(4)(A) of such section is amend-
9 ed—

10 (1) in clause (iii), by inserting “including up-
11 dated tsunami and liquefaction risk maps,”; and

12 (2) in clause (vii), by striking “Historically
13 Black Colleges and Universities and those serving
14 large proportions of Hispanics, Native Americans,
15 Asian-Pacific Americans, and other underrepresented
16 populations” and inserting “institutions described in
17 section 371(a) of the Higher Education Act of 1965
18 (20 U.S.C. 1067q(a))”.

19 **SEC. 6. SEISMIC PERFORMANCE PROPERTY STANDARDS.**

20 Section 947 of the Cranston-Gonzales National Afford-
21 able Housing Act (42 U.S.C. 7704a) is amended—

22 (1) in subsection (a), by striking “safety” both
23 places it appears and inserting “performance”; and

24 (2) in subsection (b), by striking “shake-related
25 property damage” and inserting “seismic-related

1 *property damage to improve the post-earthquake func-*
2 *tional recovery time”.*

3 **SEC. 7. SEISMIC STANDARDS.**

4 *Section 8 of the Earthquake Hazards Reduction Act*
5 *of 1977 (42 U.S.C. 7705b) is amended—*

6 *(1) in subsection (b), by striking “under para-*
7 *graph (1)” and inserting “under subsection (a)”;* and

8 *(2) by adding at the end the following:*

9 *“(c) IMPLEMENTATION OF RECOMMENDATIONS.—Each*
10 *Program agency, as part of their Program responsibilities,*
11 *shall execute research, projects, grants, and other activities*
12 *that support, promote, advance, or otherwise implement the*
13 *recommendations in the report submitted pursuant to sub-*
14 *section (b) to improve the performance of the built environ-*
15 *ment in terms of post-earthquake reoccupancy and func-*
16 *tional recovery time.*

17 *“(d) BIENNIAL REPORTS.—*

18 *“(1) BIENNIAL REPORTS TO INTERAGENCY CO-*
19 *ORDINATING COMMITTEE.—No later than September*
20 *30, 2025, and not less frequently than once every 2*
21 *years thereafter, each Program agency shall submit to*
22 *the Interagency Coordinating Committee a report on*
23 *activities and progress made to support, promote, or*
24 *advance the implementation of the recommendations*

1 *included in the report submitted pursuant to sub-*
 2 *section (b).*

3 “(2) *INCLUSION IN BIENNIAL REPORTS OF*
 4 *INTERAGENCY COORDINATING COMMITTEE.—The*
 5 *Interagency Coordinating Committee shall include the*
 6 *information received under paragraph (1) in each bi-*
 7 *ennial report submitted under section 5(a)(4), includ-*
 8 *ing consideration of a prioritized work plan to co-*
 9 *ordinate activities among the Program agencies and*
 10 *the necessary Program budget to fully implement the*
 11 *recommendations described in paragraph (1).”.*

12 **SEC. 8. IMPROVEMENTS TO POST-EARTHQUAKE INVESTIGA-**
 13 **TIONS PROGRAM.**

14 *Section 11 of the Earthquake Hazards Reduction Act*
 15 *of 1977 (42 U.S.C. 7705e) is amended, in the matter before*
 16 *paragraph (1)—*

17 (1) *in the first sentence, by inserting “domestic*
 18 *and international” after “investigate major”; and*

19 (2) *in the fifth sentence, by inserting “Federal*
 20 *Emergency Management” before “Agency”.*

21 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

22 (a) *GENERAL AUTHORIZATION FOR PROGRAM.—Sub-*
 23 *section (a)(8) of section 12 of the Earthquake Hazards Re-*
 24 *duction Act of 1977 (42 U.S.C. 7706) is amended—*

1 (1) *in subparagraph (I), by striking “, and” and*
2 *inserting a comma; and*

3 (2) *by inserting after subparagraph (J) the fol-*
4 *lowing:*

5 “(K) \$10,590,000 for fiscal year 2024,

6 “(L) \$10,590,000 for fiscal year 2025,

7 “(M) \$10,590,000 for fiscal year 2026,

8 “(N) \$10,590,000 for fiscal year 2027, and

9 “(O) \$10,590,000 for fiscal year 2028.”.

10 (b) *UNITED STATES GEOLOGICAL SURVEY.—Sub-*
11 *section (b)(2) of such section is amended—*

12 (1) *in subparagraph (I), by striking “; and” and*
13 *inserting a semicolon;*

14 (2) *in subparagraph (J), by striking the period*
15 *at the end and inserting a semicolon; and*

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

17 “(K) \$100,900,000 for fiscal year 2024, of
18 *which not less than \$36,000,000 shall be made*
19 *available for completion of the Advanced Na-*
20 *tional Seismic System established under section*
21 13;

22 “(L) \$100,900,000 for fiscal year 2025, of
23 *which not less than \$36,000,000 shall be made*
24 *available for completion of the Advanced Na-*

1 *tional Seismic System established under section*
2 *13;*

3 “(M) \$100,900,000 for fiscal year 2026, of
4 which not less than \$36,000,000 shall be made
5 available for completion of the Advanced Na-
6 tional Seismic System established under section
7 13;

8 “(N) \$100,900,000 for fiscal year 2027, of
9 which not less than \$36,000,000 shall be made
10 available for completion of the Advanced Na-
11 tional Seismic System established under section
12 13; and

13 “(O) \$100,900,000 for fiscal year 2028, of
14 which not less than \$36,000,000 shall be made
15 available for completion of the Advanced Na-
16 tional Seismic System established under section
17 13.”.

18 (c) NATIONAL SCIENCE FOUNDATION.—Subsection
19 (c)(2) of such section is amended—

20 (1) in subparagraph (I), by striking “, and” and
21 inserting a comma;

22 (2) in subparagraph (J), by striking the period
23 at the end and inserting a comma; and

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

25 “(K) \$58,000,000 for fiscal year 2024,

1 “(L) \$58,000,000 for fiscal year 2025,
2 “(M) \$58,000,000 for fiscal year 2026,
3 “(N) \$58,000,000 for fiscal year 2027, and
4 “(O) \$58,000,000 for fiscal year 2028.”.

5 (d) NATIONAL INSTITUTE OF STANDARDS AND TECH-
6 NOLOGY.—Subsection (d)(2) of such section is amended—
7 (1) in subparagraph (I), by striking “, and” and
8 inserting a comma;
9 (2) in subparagraph (J), by striking the period
10 at the end and inserting a comma; and
11 (3) by inserting after subparagraph (J) the fol-
12 lowing:

13 “(K) \$5,900,000 for fiscal year 2024,
14 “(L) \$5,900,000 for fiscal year 2025,
15 “(M) \$5,900,000 for fiscal year 2026,
16 “(N) \$5,900,000 for fiscal year 2027, and
17 “(O) \$5,900,000 for fiscal year 2028.”.

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A BILL

To reauthorize the Earthquake Hazards Reduction
Act of 1977, and for other purposes.

SEPTEMBER 24, 2024

Reported with an amendment