118TH CONGRESS
2D SESSION

S. ______

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

IN THE SENATE OF THE UNITED STATES

Mr. PADILLA introduced the following bill; which was read twice and referred to the Committee on

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 ["__________ Act
5 of 2004"].
6 SEC. 2. MODIFICATION OF FINDINGS.
7 Section 2 of the Earthquake Hazards Reduction Act
8 of 1977 (42 U.S.C. 7701) is amended—
9 (1) in paragraph (1)—
(A) by striking “50 States, and the Commonwealth of Puerto Rico,” and inserting “States and Tribal jurisdictions”;

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

(C) by adding at the end the following:

“Almost half of the United States population resides in areas that are at risk or experiencing a damaging earthquake during the 50-year period beginning on the date of the enactment of the ____________ Act of 2004”;

(2) in paragraph (2)—

(A) by inserting after the first sentence the following: “A 2023 report by the Federal Emergency Management Agency and the United States Geological Survey (FEMA P-366) estimates the annualized earthquake losses to the national building stock is $14,700,000,000 per year and the total economic exposure to earthquake losses (buildings and contents) across the nation is $107,800,000,000,000.”; and

(B) in the third sentence—

(i) by striking “and construction” and inserting “, construction, evaluation, and retrofitting”;
(ii) by striking “and (E)” and inserting the following: “(E) inventories of buildings and infrastructure with high seismic risk, especially those that are critical to community resilience, (F) programs that require or incentivize replacement or retrofit of existing buildings and infrastructure with high seismic risk, especially those that are critical to community resilience, and (G)”;

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

(4) in paragraph (4), by striking “could provide” and all that follows through the period at the end and inserting “is necessary to provide the scientific understanding needed to improve and expand the earthquake early warning system.”;

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

(6) in paragraph (9)—

(A) in the first sentence, by striking “and local” and inserting “local, and Tribal government”; and

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

(C) in the third sentence, by striking “specifications, criteria” and inserting “guidelines, codes, standards”;  

(7) in paragraph (12)—

(A) in the second sentence—

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

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

(B) by adding at the end the following: “In addition, buildings and infrastructure built to older codes and standards may pose significant risk of injury, loss of life, or irreparable damage. A 2021 report to Congress required by [the National Earthquake Hazards Reduction Program Reauthorization Act of 2018 (Public Law 115–307) —Note: Which section?] produced by the Federal Emergency Management Agency and the National Institute of Standards and Technology (FEMA P2090/NST SP-1254)
provides recommendations for improving post-earthquake functional recovery time of the built environment to support community resilience goals and many of these recommendations still need to be implemented.”; and

(8) in paragraph (13)—

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

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

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

SEC. 3. MODIFICATION OF PURPOSE.

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

(1) in paragraph (1)—

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

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

(2) in paragraph (2)—

(A) by striking “and construction” and inserting “, construction, evaluation, and retrofitting”; and
(B) by inserting “housing and care facilities for vulnerable populations,” after “occupancy buildings”; and

(3) in paragraph (4)—

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

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

SEC. 4. MODIFICATION OF DEFINITIONS.

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

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

(2) by adding at the end the following:


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

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

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

(1) in subparagraph (B)—

(A) in the matter before clause (i)—

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

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

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

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

(D) in clause (iv)—

(i) by inserting “and maintaining” after “publishing”;
(ii) by inserting “tsunami susceptibility,” after “liquefaction susceptibility;”; and

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

(E) by adding at the end the following:

“(v) development of best practices and guidelines to create an inventory of and conduct seismic performance evaluations of buildings, structures, and lifeline infrastructure with high seismic risk, especially those that are critical to community resilience; and

“(vi) the provision of technical assistance upon request by a State, local, or Tribal government regarding—

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

“(II) the performance of seismic performance evaluations; and

“(III) cost-effective best practices for retrofitting existing buildings, structures, and lifeline infrastructure.”;}
(2) in subparagraph (C), by striking “; and” and inserting a semicolon;

(3) by redesignating subparagraph (D) as subparagraph (E); and

(4) by inserting after subparagraph (C) the following:

“(D) improve the understanding of—

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

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

(b) Duties of Interagency Coordinating Committee on Earthquake Hazards Reduction.—Subsection (a)(3)(D)(ii) of such section is amended—

(1) in subclause (V), by inserting “and associated secondary hazards” before the period at the end; and

(2) by adding at the end the following:

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

(c) Biennial Report.—Subsection (a)(4)(A) of such section is amended by striking “under paragraph (3)(D)(i)(I)” each place it appears and inserting “under paragraph (3)(D)(ii)(I)”.

(d) Advisory Committee.—Subsection (a)(5)(A) of such section is amended—

(1) by striking “and local government” and inserting “, local, and Tribal governments”; and

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

(e) Lead Agency for Responsibilities of Program Agencies.—Subsection (b)(1) of such section is amended—

(1) in subparagraph (A)—

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

(B) by striking “plan and constructing” and inserting “planning, designing, constructing, evaluating, and retrofitting”; and

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

(3) by inserting after subparagraph (B) the following:
“(C) improve the understanding of earthquake-caused fires and support the development of engineering tools and construction methods that mitigate the risk of fire following earthquakes;

“(D) develop, in coordination with the Administrator of the Federal Emergency Management Agency, best practices and guidelines for a State, local, or Tribal government to create an inventory of buildings, structures, or lifeline infrastructure that are critical to community resilience or otherwise have high seismic risk;

“(E) provide, in coordination with the Administrator of the Federal Emergency Management Agency, technical assistance to a State, local, or Tribal government requesting such assistance with respect to the creation of an inventory of buildings, structures, or lifeline infrastructure;”.

(f) RESPONSIBILITIES OF FEDERAL EMERGENCY MANAGEMENT AGENCY.—Subsection (b)(2) of such section is amended—

(1) in subparagraph (A)—

(A) in clause (i)—
(i) by inserting “and Tribal governments” after “States”; 
(ii) by striking “safety inspections” and inserting “performance evaluations”; and 
(iii) by inserting “and improve post-earthquake functional recovery” after “seismic safety”; 

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

(C) in clause (iii)— 

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

(ii) by inserting “that enhance seismic safety, improve post-earthquake functional recovery, and reduce losses from earthquakes” after “and lifeline infrastructure”; 

(D) in clause (iv)— 

(i) in striking “and local” and inserting “, local, and Tribal”; and 

(ii) by striking “; and” and inserting a semicolon;
(E) by redesignating clause (v) as clause (vi); and

(F) by inserting after clause (iv) the following:

“(v) shall provide technical assistance to State, local, or Tribal governmental entities in the creation of evacuation plans in the event of an earthquake, landslide, tsunami, or other earthquake-related hazard; and”;

(2) in subparagraph (B)—

(A) in the subparagraph heading, by inserting “AND TRIBAL” after “STATE”;

(B) in the matter before clause (i), by inserting “or Tribal government” after “State”;

and

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

(g) RESPONSIBILITIES OF UNITED STATES GEOLOGICAL SURVEY.—Subsection (b)(3) of such section is amended—

(1) in subparagraph (B), by striking “and local” and inserting “, local, and Tribal”;
(2) in subparagraph (C), by inserting “, the Chair of the Federal Communications Commission,” after “Agency”;

(3) by redesignating subparagraphs (D) through (K) as subparagraphs (J) through (O), respectively;

(4) by inserting after subparagraph (C) the following:

“(D) coordinate with the Administrator of the National Oceanic and Atmospheric Administration and the Administrator of the Federal Emergency Management Agency on data sharing and resource allocation to support a timely response to oceanic earthquakes and tsunamis;

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

“(F) expand the earthquake early warning system within and to additional high earthquake hazard areas, including making improvements as practicable to improve detection and
increase the time between warning messages and perceptible ground motion;

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

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

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

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

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

(h) **Responsibilities of National Science Foundation.**—Subsection (b)(4)(A) of such section is amended—

(1) in clause (iii), by inserting “including updated tsunami and liquefaction risk maps,”; and

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

SEC. 6. SEISMIC PERFORMANCE PROPERTY STANDARDS.

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

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

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

SEC. 7. SEISMIC STANDARDS.

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

(1) in subsection (b), by striking “under paragraph (1)” and inserting “under subsection (a)”;

and

(2) by adding at the end the following:

“(c) IMPLEMENTATION OF RECOMMENDATIONS.—Each Program agency, as part of their Program responsibilities, shall execute research, projects, grants, and other activities that support, promote, advance, or otherwise implement the recommendations in the report sub-
mitted pursuant to subsection (b) to improve the performance of the built environment in terms of post-earthquake reoccupancy and functional recovery time.

“(d) Biennial Reports.—

“(1) Biennial reports to interagency coordinating committee.—No later than June 30, 2025, and not less frequently than once every 2 years thereafter, each Program agency shall submit to the Interagency Coordinating Committee a report on activities and progress made to support, promote, or advance the implementation of the recommendations included in the report submitted pursuant to subsection (b).

“(2) Inclusion in biennial reports of interagency coordinating committee.—The Interagency Coordinating Committee shall include the information received under paragraph (1) in each biennial report submitted under section 5(a)(4), including consideration of a prioritized work plan to coordinate activities among the Program agencies and the necessary Program budget to fully implement the recommendations described in paragraph (1).”.
SEC. 8. IMPROVEMENTS TO POST-EARTHQUAKE INVESTIGATIONS PROGRAM.

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

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

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

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) General Authorization for Program.—Subsection (a)(8) of section 12 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7706) is amended—

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

(2) by inserting after subparagraph (J) the following:

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

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

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

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

and

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

(b) United States Geological Survey.—Subsection (b)(2) of such section is amended—
(1) in subparagraph (I), by striking ‘‘; and’’
and inserting a semicolon;

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

(3) by adding at the end the following:

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

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

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

‘‘(N) $100,900,000 for fiscal year 2027, of
which not less than $36,000,000 shall be made
available for completion of the Advanced Na-
tional Seismic System established under section
13; and
“(O) $100,900,000 for fiscal year 2028, of which not less than $36,000,000 shall be made available for completion of the Advanced National Seismic System established under section 13.”.

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

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

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

(3) by adding at the end the following:

“(K) $58,000,000 for fiscal year 2024,
“(L) $58,000,000 for fiscal year 2025,
“(M) $58,000,000 for fiscal year 2026,
“(N) $58,000,000 for fiscal year 2027,
and
“(O) $58,000,000 for fiscal year 2028.”.

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

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

(2) in subparagraph (J), by striking the period at the end and inserting a comma; and
(3) by inserting after subparagraph (J) the following:

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