

110TH CONGRESS
2D SESSION

S. 3444

To provide for upgrading security at civilian nuclear facilities and of nuclear materials that could be used to construct a dirty bomb.

IN THE SENATE OF THE UNITED STATES

AUGUST 1, 2008

Mrs. CLINTON introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To provide for upgrading security at civilian nuclear facilities and of nuclear materials that could be used to construct a dirty bomb.

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 “Nuclear Facility and
5 Material Security Act of 2008”.

6 **SEC. 2. NUCLEAR REACTOR DESIGNS REGARDING AIR-**
7 **CRAFT IMPACT.**

8 (a) FINAL RULE.—Not later than 1 year after the
9 date of enactment of this Act, the Nuclear Regulatory
10 Commission shall issue a final rule requiring all commer-

1 cial nuclear power reactors approved for construction after
 2 such date of enactment to be designed to withstand a large
 3 commercial aircraft impact. Such rule shall address the
 4 structural response, shock and vibration effects, and fire
 5 effects of the impact.

6 (b) REQUIRED DESIGN FEATURES.—Such final rule
 7 shall require design features to ensure that—

8 (1) important safety functions will operate for
 9 a sufficient period of time after the impact of a large
 10 commercial aircraft so that the unit can be safely
 11 shut down and maintained in safe shutdown condi-
 12 tion; and

13 (2) the consequences of the impact will not re-
 14 sult in a release of radioactive materials to the envi-
 15 ronment that causes a member of the surrounding
 16 community to receive a dose that triggers an evacu-
 17 ation recommendation, consistent with the levels es-
 18 tablished by the Environmental Protection Agency
 19 and the Public Protection Action Guide Limit for
 20 Evacuation and Shelter (EPA 400–R–92–001).

21 **SEC. 3. SPENT FUEL SECURITY ENHANCEMENTS.**

22 (a) STORAGE RULE.—Not later than 18 months after
 23 the date of enactment of this Act, the Nuclear Regulatory
 24 Commission shall issue a final rule requiring—

1 (1) the configuration of spent fuel assemblies
2 stored in spent fuel pools to minimize the risk of fire
3 in the event the spent fuel pools are drained during
4 an accident or terrorist attack;

5 (2) spent nuclear fuel to be transferred from a
6 spent fuel pool into dry cask storage at the earliest
7 possible time that the heat load of the spent fuel
8 material allows for such transfer to occur safely; and

9 (3) mitigation features such as water-spray sys-
10 tems to cool spent fuel in the event spent fuel pools
11 are drained during an accident or terrorist attack.

12 (b) INDEPENDENT INSTALLATION SECURITY.—

13 (1) RULEMAKING REQUIREMENT.—Not later
14 than 1 year after the date of enactment of this Act,
15 the Nuclear Regulatory Commission shall issue an
16 Independent Spent Fuel Storage Installation secu-
17 rity final rule that makes such installations subject
18 to the security evaluation requirements of section
19 170D of the Atomic Energy Act of 1954 (42 U.S.C.
20 2210d).

21 (2) DESIGN BASIS THREAT.—The rule issued
22 under paragraph (1) shall provide for incorporating
23 Independent Spent Fuel Storage Installations into
24 the design basis threat rule issued under section

1 170E of the Atomic Energy Act of 1954 (42 U.S.C.
2 2210e).

3 **SEC. 4. CONSIDERING THE RISK OF ACTS OF TERRORISM**
4 **ON NUCLEAR FACILITIES.**

5 The Nuclear Regulatory Commission shall consider
6 the likely consequences of a potential terrorist attack in
7 any review it is required to undertake under the National
8 Environmental Policy Act of 1969 (42 U.S.C. 4321 et
9 seq.).

10 **SEC. 5. POTASSIUM IODIDE.**

11 (a) REPEAL OF WAIVER AUTHORITY.—Section
12 127(f) of the Public Health Security and Bioterrorism
13 Preparedness and Response Act of 2002 (42 U.S.C.
14 300hh–12 note) is repealed.

15 (b) JURISDICTIONAL AUTHORITY.—The Secretary of
16 Health and Human Services shall exercise all Federal au-
17 thority over the distribution of potassium iodide as a med-
18 ical prophylaxis for radiological exposure in humans, in-
19 cluding all activities under section 127 of the Public
20 Health Security and Bioterrorism Preparedness and Re-
21 sponse Act of 2002 (42 U.S.C. 300hh–12 note).

22 (c) NAS STUDIES.—Not later than June 30, 2011,
23 and at least once every 5 years thereafter, the Secretary
24 of Health and Human Services shall enter into an ar-
25 rangement with the National Academy of Sciences for

1 studies on appropriate emergency response plans to non-
2 routine releases of radioactive materials, including from
3 nuclear power plants, spent fuel storage facilities, radio-
4 logical dispersal devices, and improvised nuclear explosive
5 devices. Such studies shall address evacuation, sheltering,
6 food interdiction, and medical prophylaxes for radioiodine
7 and other radioisotopes that are released in such events.

8 Such studies shall—

9 (1) review relevant evacuations and food inter-
10 dictions of the preceding five-year period for lessons
11 learned;

12 (2) identify the population that would be ex-
13 posed by the release and evaluate the potential con-
14 sequences of such exposure;

15 (3) recommend best practices for emergency re-
16 sponse to radiological releases; and

17 (4) evaluate new research on medical prophy-
18 laxes for radioiodine and other radioisotopes released
19 in such events and recommend whether additional
20 medical prophylaxes should be procured for the Stra-
21 tegic National Stockpile or State and local stock-
22 piles.

23 (d) SECRETARY'S ACTIONS.—Based on the findings
24 of the studies conducted under subsection (c), the Sec-
25 retary of Health and Human Services shall—

1 (1) consider the advisability of procurement for
2 the Strategic National Stockpile, and distribution to
3 State and local governments, of medical prophylaxes
4 other than potassium iodide, against radioiodine and
5 other radiological byproducts; and

6 (2) update the Federal potassium iodide dis-
7 tribution guidelines, including with lessons learned
8 from evacuation events, as necessary.

9 (e) GUIDELINES.—Section 127(c) of the Public
10 Health Security and Bioterrorism Preparedness and Re-
11 sponse Act of 2002 (42 U.S.C. 300hh–12 note) is amend-
12 ed to read as follows:

13 “(c) GUIDELINES.—Not later than 60 days after the
14 date of enactment of the Nuclear Facility and Material
15 Security Act of 2008, the Secretary of Health and Human
16 Services, in consultation with individuals representing ap-
17 propriate Federal, State, and local agencies, shall establish
18 guidelines for the stockpiling of potassium iodide tablets,
19 and for the distribution and utilization of potassium iodide
20 tablets in the event of a nuclear incident.”.

21 **SEC. 6. AUDIT OF SAFETY AND SECURITY ANALYSIS AND**
22 **REVIEW ACTIVITIES.**

23 Title II of the Energy Reorganization Act of 1974
24 (42 U.S.C. 5841 et seq.) is amended by adding at the end
25 the following:

3 “SEC. 213. (a) There shall be established within the
4 Office of the Inspector General of the Commission a unit
5 with appropriate and adequate technical staff, including
6 degreed engineers with nuclear power plant experience,
7 which shall audit the Commission’s regulatory oversight
8 activities related to safety and security of civilian nuclear
9 facilities.

10 “(b) There are authorized to be appropriated to the
11 Commission, for carrying out this Act, such sums as may
12 be necessary.”.

13 SEC. 7. RADIATION SOURCE PROTECTION.

(a) CATEGORIZATION OF RADIATION SOURCES.—
Section 170H f. of the Atomic Energy Act of 1954 (42
U.S.C. 2210h(f)) is amended by adding at the end the
following new paragraph:

18 “(4) Not later than 1 year after the date of the enact-
19 ment of this paragraph, the task force shall—

20 “(A) complete an evaluation of the materials
21 listed in the Code of Conduct;

22 “(B) make recommendations to amend the
23 Commission’s regulatory requirements for certain ra-
24 diation sources or activity levels of certain radiation
25 sources to account for—

1 “(i) risks associated with the deliberate
2 dispersal of those materials from radiation
3 sources, including dispersal for the purpose of
4 causing the ingestion or inhalation of those ma-
5 terials; and

6 “(ii) the radiation source’s potential to
7 cause contamination of large areas, or economic
8 and social disruption that could result from a
9 terrorist attack; and

10 “(C) designate additional radiation sources for
11 which the risks described in subparagraph (B)(i)
12 and (ii) are particularly high as high-risk radiation
13 sources for purposes of section 2(e) of the Nuclear
14 Facility and Material Security Act of 2008.

15 Upon completion of the recommendations under this para-
16 graph, the Commission shall implement those rec-
17 ommendations by regulation.”.

18 (b) TRANSPORTATION OF RADIATION SOURCES.—
19 Not later than 18 months after the date of enactment of
20 this Act, the Nuclear Regulatory Commission shall publish
21 a final rule revising its regulations on the security require-
22 ments for the transportation of Category 1, 2, and 3
23 sources (as defined in the Code of Conduct referred to in
24 section 170H a.(1) of the Atomic Energy Act of 1954 (42
25 U.S.C. 2210h(a)(1))), including a requirement that ship-

1 ments of Category 1, 2, and 3 sources be equipped with
2 covert technology that would enable location tracking and
3 recovery in the event the shipments or sources are stolen
4 or diverted.

5 (c) RADIATION SOURCE LICENSING.—Not later than
6 18 months after the date of enactment of this Act, the
7 Nuclear Regulatory Commission shall issue a final rule re-
8 quiring carriers and transporters transporting within the
9 United States radiation sources (as defined in section
10 170H a.(2) of the Atomic Energy Act of 1954 (42 U.S.C.
11 2210h(a)(2))) to be licensed by the Commission.

12 (d) NATIONAL RADIATION SOURCE TRACKING SYS-
13 TEM.—Not later than 2 years after the date of enactment
14 of this Act, the Nuclear Regulatory Commission shall
15 issue a final rule, pursuant to its authority to promote
16 or protect the common defense and security under section
17 161 of the Atomic Energy Act of 1954 (42 U.S.C. 2201),
18 and in a manner that maximizes the use of appropriate
19 State government capabilities, to revise Commission regu-
20 lations with respect to the National Source Tracking Sys-
21 tem to require technologies and systems that can provide
22 real-time tracking and enable locating—

23 (1) Category 1, 2, and 3 sources (as defined in
24 the Code of Conduct referred to in section 170H

1 a.(1) of the Atomic Energy Act of 1954 (42 U.S.C.
2 2210h(a)(1)); and

3 (2) radiation sources with $\frac{1}{10}$ or more of the
4 activity threshold of such Category 3 sources.

5 (e) HIGH-RISK RADIATION SOURCES SECURITY AND
6 REPLACEMENT.—

7 (1) RULE.—Not later than 2 years after the
8 date of enactment of this Act, the Nuclear Regu-
9 latory Commission shall issue a final rule, pursuant
10 to its authority to promote or protect the common
11 defense and security under section 161 of the Atom-
12 ic Energy Act of 1954 (42 U.S.C. 2201), to estab-
13 lish requirements leading to the replacement of all
14 high-risk radiation sources. Such rule shall include
15 provisions that—

16 (A) discontinue licensing for each applica-
17 tion of new high-risk radiation sources as soon
18 as is practicable, but in no event later than 10
19 years after the date of enactment of this Act,
20 unless technologically feasible alternatives are
21 not available;

22 (B) prescribe a new license fee structure,
23 or other means of guaranteeing the availability
24 of funds, for any new licenses of high-risk radi-
25 ation sources to ensure that the costs of dis-

1 position of the high-risk radiation sources will
2 be covered;

3 (C) provide for incentives for decommis-
4 sioning and replacing existing high-risk radi-
5 ation sources;

6 (D) prohibit the export of high-risk radi-
7 ation sources to other countries; and

8 (E) prescribe enhanced security measures
9 for existing high-risk radiation sources.

10 (2) TASK FORCE RECOMMENDATIONS.—Not
11 later than 4 years after the initial rule is issued
12 under paragraph (1) or any update is issued under
13 paragraph (3), the Task Force on Radiation Source
14 Protection and Security established under section
15 170H f. of the Atomic Energy Act of 1954 (42
16 U.S.C. 2210h(f)) shall review the rule or update and
17 make recommendations for appropriate modifications
18 to the rule or update to account for—

19 (A) the emergence of new technologies that
20 can be used to replace high-risk radiation
21 sources; and

22 (B) new security threats or intelligence in-
23 formation regarding the risk of a deliberate at-
24 tack using these radiation sources.

1 (3) NUCLEAR REGULATORY COMMISSION RE-
 2 VIEW.—Taking into consideration the recommenda-
 3 tions of the task force under paragraph (2), the
 4 Commission shall review and update the rule issued
 5 under paragraph (1) not less frequently than once
 6 every 5 years to account for—

7 (A) the emergence of new technologies that
 8 can be used to replace high-risk radiation
 9 sources; and

10 (B) new security threats or intelligence in-
 11 formation regarding the risk of a deliberate at-
 12 tack using these radiation sources.

13 (4) AUTHORIZATION OF APPROPRIATIONS.—
 14 There are authorized to be appropriated to the Nu-
 15 clear Regulatory Commission for carrying out para-
 16 graph (1)(C) such sums as may be necessary for the
 17 fiscal years 2009 through 2013.

18 (5) DEPARTMENT OF ENERGY PROGRAM.—
 19 There are authorized to be appropriated to the Sec-
 20 retary of Energy \$50,000,000 for the period encom-
 21 passing fiscal years 2009 through 2018 for the ac-
 22 ceptance, storage, and disposition of high-risk radi-
 23 ation sources by the Department's United States
 24 Radiological Threat Reduction Program.

1 (6) DEFINITION.—For purposes of this sub-
2 section, the term “high-risk radiation source” means
3 cesium chloride and any other radiation source that
4 is designated by the Task Force on Radiation
5 Source Protection and Security under section 170H
6 f.(4)(C) of the Atomic Energy Act of 1954 (42
7 U.S.C. 2210h(f)(4)(C)).

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