

108TH CONGRESS
1ST SESSION

S. 193

To direct the Secretary of Energy to carry out a program to evaluate and demonstrate the operation of radiation detection systems for use at seaports in the United States.

IN THE SENATE OF THE UNITED STATES

JANUARY 17, 2003

Ms. LANDRIEU introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To direct the Secretary of Energy to carry out a program to evaluate and demonstrate the operation of radiation detection systems for use at seaports in the United States.

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 “Radiation Detection
5 for Dirty Bomb Material in Containers and Bulk Cargo
6 Act of 2003”.

7 **SEC. 2. FINDINGS.**

8 Congress finds that—

1 (1) the possibility of a terrorist group using a
2 dirty bomb as a weapon against the United States
3 is 1 of the greatest threats to national security;

4 (2) it is not difficult to transport dirty bomb
5 material and conventional explosives into the United
6 States in a sea freight container or bulk material
7 cargo;

8 (3) because of the threat of dirty bombs to na-
9 tional security and the limitations of the current ra-
10 diation detection system with respect to detecting
11 dirty bombs, the Secretary of Energy should carry
12 out a program to demonstrate the operation of a
13 large-scale radiation detection system that uses ad-
14 vanced scanning technologies to enable more sea
15 freight containers and bulk material cargo to be in-
16 spected at seaports and places of entry by land;

17 (4) in selecting a system for demonstration, the
18 Secretary should give priority to existing radiation
19 detection technologies that—

20 (A) have proven to be effective nationally
21 and internationally;

22 (B) may be quickly implemented; and

23 (C) are capable of detecting radioactive
24 sources in sea freight containers and bulk mate-
25 rial cargo to a reasonable depth;

1 (5) the selected system should—

2 (A) screen sea freight containers and bulk
3 material cargo without, to the maximum extent
4 practicable, inhibiting the flow of commerce at
5 seaports and places of entry by land;

6 (B) operate at a level capable of detecting
7 a heavily shielded, concealed, radioactive source;
8 and

9 (C) have the capability of distinguishing
10 between—

11 (i) a nonthreatening radioactive
12 source; and

13 (ii) a radioactive source that is being
14 used, or capable of being used, as a dirty
15 bomb;

16 (6) any information that is obtained during the
17 scanning of sea freight containers and bulk material
18 cargo should be maintained in a central data collec-
19 tion system to be archived in real-time and made
20 available to the appropriate Federal, State, and local
21 agencies for use in tracking and analyzing trends
22 and alarm conditions and operating radiation detec-
23 tion systems;

24 (7) pilot projects for monitoring sea freight con-
25 tainers and bulk material cargo that are carried out

1 under this Act should incorporate information ob-
2 tained from all other national and international
3 projects pertaining to inspection of sea containers
4 and cargo shipped across places of entry by land;
5 and

6 (8) in developing the final procedures and pro-
7 tocols for monitoring sea freight containers and bulk
8 material cargo for radiation, the Secretary should
9 ensure that the procedures and protocols—

10 (A) address situations that seaport and
11 land authorities may confront during the scan-
12 ning of incoming cargoes; and

13 (B) provide the seaport and land authori-
14 ties with the necessary guidance to adequately
15 respond to the situations.

16 **SEC. 3. DEFINITIONS.**

17 In this Act:

18 (1) PROGRAM.—The term “program” means
19 the radiation detection system demonstration pro-
20 gram carried out under section 4.

21 (2) SECRETARY.—The term “Secretary” means
22 the Secretary of Energy.

23 (3) SYSTEM.—The term “system” means a ra-
24 diation detection system.

1 **SEC. 4. RADIATION DETECTION SYSTEM DEMONSTRATION**
2 **PROGRAM.**

3 (a) **IN GENERAL.**—The Secretary shall carry out a
4 program to—

5 (1) maintain and expand ongoing seaport and
6 land radiation detection system projects;

7 (2) use existing laboratory relationships and ex-
8 pertise in large-scale radiation monitoring systems;

9 (3) evaluate radiation detection systems for use
10 at seaports and places of entry by land in the United
11 States; and

12 (4) select at least 1 system for demonstration
13 at a seaport and 1 system for demonstration at a
14 place of entry by land.

15 (b) **EVALUATION OF SYSTEMS.**—

16 (1) **IN GENERAL.**—The Secretary shall conduct
17 an evaluation of existing state-of-the-art systems
18 that provide the highest degree of detection capa-
19 bility for radioactive sources that may be hidden in
20 sea freight containers or cargo crossing land bor-
21 ders.

22 (2) **TECHNOLOGY.**—The Secretary shall empha-
23 size the rapid development of existing technology
24 and systems on completion of the evaluation.

25 (c) **SELECTION OF SYSTEM FOR DEMONSTRATION.**—

1 (1) IN GENERAL.—A system selected by the
2 Secretary—

3 (A) may include hardware components
4 such as detectors, instrumentation, and commu-
5 nication hardware; and

6 (B) shall include—

7 (i) integration of the hardware;

8 (ii) reporting procedures and proto-
9 cols; and

10 (iii) coordination for decisionmaking,
11 databases, and related software develop-
12 ments.

13 (2) PROXIMITY TO MATERIAL.—In selecting a
14 system for demonstration, the Secretary shall—

15 (A) take into consideration that it is crit-
16 ical that the system be located as close as pos-
17 sible to the material to be scanned; and

18 (B) select a system that allows for close
19 proximity.

20 (3) TECHNOLOGY FIELD OPERATIONAL TIME.—

21 The Secretary shall select for demonstration a sys-
22 tem that uses a technology that has proven field
23 operational time.

24 (d) DEMONSTRATION.—

1 (1) USE OF KNOWLEDGE GAINED FROM PRE-
2 VIOUS STUDY.—In the demonstration phase of the
3 program, the Secretary shall—

4 (A) incorporate knowledge gained from the
5 study conducted at Port of New Orleans before
6 the date of enactment of this Act; and

7 (B) expand on that knowledge to account
8 for material shipped in containers.

9 (2) DURATION.—The demonstration phase of
10 the program shall be completed not later than 2
11 years after the date on which funding is made avail-
12 able for the program.

13 (3) FUTURE NEEDS.—As part of the dem-
14 onstration phase, the Secretary shall—

15 (A) identify needs for future research and
16 improvement for continued development of
17 emerging systems; and

18 (B) make Federal, State, and local agen-
19 cies with responsibilities relating to seaport and
20 land authorities aware of those needs.

21 (e) REQUIREMENTS.—

22 (1) DATA.—Regardless of the operational con-
23 dition of a system, all data detected by the system
24 shall be collected, displayed, and archived.

1 (2) DURABILITY.—A system shall be capable of
2 withstanding critical acceleration caused by severe
3 impacts and rough handling, that are attendant to
4 the monitoring of containers and bulk material being
5 unloaded from a ship.

6 (3) RADIATION DETECTED.—A system shall be
7 capable of detecting gammas and neutrons emitted
8 by isotopes that could be used to construct a dirty
9 bomb, including cobalt-60, cesium-137, iridium-192,
10 iodine-131, and americium-241/beryllium.

11 (4) SYSTEM OPERATION.—The operation of a
12 system shall be fully automatic.

13 (5) DETECTION TIME.—A system shall be capa-
14 ble of detecting radiation in a container that will not
15 significantly inhibit the flow of commerce.

16 (6) BACKGROUND.—A system shall be sensitive
17 to fluctuations in background levels.

18 **SEC. 5. PROCEDURES AND PROTOCOLS FOR DETECTION**
19 **AND REPORTING.**

20 In connection with the program, the Secretary shall
21 develop standard procedures and protocols for detection
22 and reporting of data collected from radiation collection
23 systems to allow synchronization of technical approaches
24 to detection and harmonize coordination efforts among
25 agencies.

1 **SEC. 6. TECHNICAL ASSISTANCE.**

2 (a) IN GENERAL.—The Secretary shall develop a na-
3 tional technical assistance program to share and propa-
4 gate the experiences gained in conducting the program.

5 (b) STAKEHOLDERS.—In carrying out subsection (a),
6 the Secretary shall solicit the views of stakeholders (in-
7 cluding members of the National Maritime Security Advi-
8 sory Committee, local port authorities, the Conference of
9 Radiation Control Program Directors, Inc., and the
10 Health Physics Society) to encourage the greatest level of
11 participation in the development of a national program of
12 radiation detection systems.

13 **SEC. 7. INTERNSHIPS.**

14 In connection with the program, the Secretary shall
15 provide student internships to universities in States with
16 significant seaports that focus on academic programs per-
17 taining to radiation detection and radiation health physics.

18 **SEC. 8. REPORT.**

19 At the conclusion of the program, the Secretary shall
20 submit to Congress a report that describes the results of
21 the program.

22 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

23 There are authorized to be appropriated for each of
24 fiscal years 2004 through 2007 such sums as are nec-
25 essary to carry out this Act.

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