

109<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 5761

To amend the Nuclear Waste Policy Act of 1982 to improve the material control and accounting and data management systems used by civilian nuclear power reactors to better account for spent nuclear fuel and reduce the risks associated with the handling of those materials.

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## IN THE HOUSE OF REPRESENTATIVES

JULY 11, 2006

Mr. SANDERS introduced the following bill; which was referred to the  
Committee on Energy and Commerce

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## A BILL

To amend the Nuclear Waste Policy Act of 1982 to improve the material control and accounting and data management systems used by civilian nuclear power reactors to better account for spent nuclear fuel and reduce the risks associated with the handling of those materials.

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 “Spent Nuclear Fuel  
5 Control and Accounting Act of 2006”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

1           (1) several incidents involving missing or unac-  
2           counted-for spent nuclear fuel have occurred at civil-  
3           ian nuclear power reactors, including—

4                   (A) the Vermont Yankee Nuclear Power  
5           Plant;

6                   (B) the Humboldt Bay Nuclear Power  
7           Plant (California); and

8                   (C) the Millstone Nuclear Power Station  
9           (Connecticut);

10          (2) weaknesses in the accounting and control of  
11          spent nuclear fuel have been identified at several  
12          other civilian nuclear power reactors;

13          (3) data provided by the Nuclear Regulatory  
14          Commission indicate that—

15                   (A) operators of most civilian nuclear  
16          power reactors have removed spent fuel rods  
17          from their fuel assemblies; and

18                   (B) those rods are stored onsite in spent  
19          fuel pools or dry casks or have been shipped  
20          offsite to a storage facility;

21          (4) individual spent fuel rods and fragments  
22          may also result from the loading of a new assembly  
23          and therefore may be new fuel;

24          (5) individual spent fuel rods, and especially  
25          fragments of spent fuel rods, are—

1 (A) highly radioactive; and

2 (B) much smaller and lighter than fuel as-  
3 semblies;

4 (6) while regulations promulgated by the Nu-  
5 clear Regulatory Commission require civilian nuclear  
6 power reactors to control and account for spent nu-  
7 clear fuel, they do not cover—

8 (A) individual spent fuel rods that have  
9 been removed from an assembly; and

10 (B) fragments of spent fuel rods;

11 (7) the storage and oversight of individual  
12 spent fuel rods at civilian nuclear power reactors  
13 have not been managed in a consistent manner;

14 (8) the lack of specific guidance in the regula-  
15 tions promulgated by the Nuclear Regulatory Com-  
16 mission relating to how civilian nuclear power reac-  
17 tors should conduct physical inventories has resulted  
18 in inconsistent compliance with those regulations;

19 (9) the Nuclear Regulatory Commission does  
20 not evaluate the compliance of civilian nuclear power  
21 reactors with the material control and accounting  
22 regulations promulgated by the Commission;

23 (10) the Nuclear Regulatory Commission has  
24 much to do to implement the recommendations listed  
25 in the report published by the Government Account-

1 ability Office titled “NRC Needs to Do More to En-  
2 sure that Power Plants Are Effectively Controlling  
3 Spent Nuclear Fuel”; and

4 (11) the effective implementation of material  
5 control and accounting regulations by civilian nu-  
6 clear power reactors is of great importance to the  
7 United States because of the potential safety and se-  
8 curity consequences for failing to manage spent nu-  
9 clear fuel, especially in the aftermath of terrorist at-  
10 tacks in the United States.

11 **SEC. 3. MATERIAL CONTROL AND ACCOUNTING OF DIS-**  
12 **MANTLED FUEL ASSEMBLY.**

13 The Nuclear Waste Policy Act of 1982 (42 U.S.C.  
14 10101 et seq.) is amended by adding after section 137  
15 the following:

16 **“SEC. 138. MATERIAL CONTROL AND ACCOUNTING OF INDI-**  
17 **VIDUAL RODS AND FRAGMENTS FROM A DIS-**  
18 **MANTLED FUEL ASSEMBLY.**

19 “(a) PROMULGATION OF REGULATIONS.—The Com-  
20 mission shall promulgate regulations to require each civil-  
21 ian nuclear power reactor to provide to the Commission  
22 a report that contains a detailed record of each individual  
23 spent fuel rod, and each fragment of a spent fuel rod, that  
24 results from the loading or dismantling of a fuel assembly.

1       “(b) ANNUAL INSPECTION.—The Commission shall  
2 promulgate regulations to require an annual inspection by  
3 the Commission of each civilian nuclear power reactor to  
4 determine the compliance of the civilian nuclear power re-  
5 actor with regulations relating to the material control and  
6 accounting of spent nuclear fuel promulgated by the Com-  
7 mission.

8       **“SEC. 139. GUIDANCE FOR STORING INDIVIDUAL FUEL**  
9                               **RODS AND FRAGMENTS.**

10       “The Commission shall develop and make available  
11 to each civilian nuclear power reactor guidance that de-  
12 scribes—

13               “(1) best management practices relating to—

14                       “(A) the procedures that a civilian nuclear  
15 power reactor should use to store individual fuel  
16 rods and fragments on site; and

17                       “(B) the selection of suitable locations for  
18 the storage of individual fuel rods and frag-  
19 ments; and

20               “(2) suitable inventory practices relating to—

21                       “(A) the manner in which a civilian nu-  
22 clear power reactor should conduct an annual  
23 inventory of any spent nuclear fuel, including  
24 individual fuel rods and fragments; and

1           “(B) the manner in which a civilian nu-  
2           clear power reactor should catalogue each item  
3           of spent nuclear fuel, including individual rods  
4           and fragments located at the civilian nuclear  
5           power reactor.

6   **“SEC. 140. ELECTRONIC DATA MANAGEMENT AND WASTE**  
7                           **TRACKING SYSTEM.**

8           “(a) DEVELOPMENT OF SYSTEM.—The Commission  
9           shall develop an electronic data management and waste  
10          tracking system—

11                  “(1) to store and access the records of each ci-  
12          vilian nuclear power reactor; and

13                  “(2) to track the location of spent nuclear fuel  
14          including individual rods and fragments.

15          “(b) ADOPTION OF ELECTRONIC DATA MANAGE-  
16          MENT AND WASTE TRACKING SYSTEM BY CIVILIAN NU-  
17          CLEAR POWER REACTORS.—The Commission shall pro-  
18          mulgate regulations to require each civilian nuclear power  
19          reactor—

20                  “(1) in the case of a civilian nuclear power re-  
21          actor that is licensed before the date of enactment  
22          of this section, to digitize the existing records of the  
23          civilian nuclear power reactor; and

24                  “(2) in the case of a civilian nuclear power re-  
25          actor that is licensed on or after the date of enact-

1       ment of this Act, to implement and use the elec-  
2       tronic data management and waste tracking system  
3       described in subsection (a).

4       “(c) EVALUATION OF EXISTING ELECTRONIC DATA  
5       MANAGEMENT AND WASTE TRACKING SYSTEMS.—The  
6       Commission may evaluate existing electronic data manage-  
7       ment and waste tracking systems to determine whether  
8       those systems could be modified for purposes of complying  
9       with subsection (a).”.

10   **SEC. 4. MANIFEST REQUIREMENT FOR SPENT NUCLEAR**  
11                   **FUEL.**

12       The Nuclear Waste Policy Act of 1982 (42 U.S.C.  
13   10101 et seq.) is amended by inserting after section 180  
14   the following:

15   **“SEC. 181. MANIFEST REQUIREMENT FOR SPENT NUCLEAR**  
16                   **FUEL.**

17       “(a) DEVELOPMENT OF MANIFEST.—The Commis-  
18   sion shall develop a detailed manifest form for the onsite  
19   transportation of spent fuel that indicates whether the  
20   package containing the spent fuel contains individual rods  
21   or fragments.

22       “(b) PROMULGATION OF REGULATIONS.—The Com-  
23   mission shall promulgate regulations to require each civil-  
24   ian nuclear power reactor to provide to the Commission  
25   a completed detailed manifest form developed under sub-

1 section (a) to identify and track any spent fuel rod or rod  
 2 fragment that is transported within the premises of the  
 3 civilian nuclear power reactor.

4 **“SEC. 182. IDENTIFICATION OF SPENT FUEL OR ROD FRAG-**  
 5 **MENTS TRANSPORTED OUTSIDE PREMISES**  
 6 **OF CIVILIAN NUCLEAR POWER REACTORS.**

7 “The Commission, in consultation with the Depart-  
 8 ment of Transportation, shall identify any spent fuel rod  
 9 or rod fragment that is transported outside the premises  
 10 of the civilian nuclear power reactor through use of mani-  
 11 fests used by the Department of Transportation.”.

12 **SEC. 5. CONFORMING AMENDMENTS.**

13 The table of contents of the Nuclear Waste Policy  
 14 Act of 1982 (42 U.S.C. 10101 note; 96 Stat. 2201) is  
 15 amended—

16 (1) by adding after the item relating to section  
 17 137 the following:

“Sec. 138. Material control and accounting of dismantled fuel assembly.

“Sec. 139. Guidance for storing spent nuclear fuel.

“Sec. 140. Electronic data management and waste tracking system.”.

18 and;

19 (2) by adding after the item relating to section  
 20 180 the following:

“Sec. 181. Manifest requirement for spent nuclear fuel.

“Sec. 182. Identification of spent fuel or rod fragments transported outside  
 premises of civilian nuclear power reactors.”.

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