

110TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To amend the Clean Air Act to establish a regulatory program for sulfur dioxide, nitrogen oxides, mercury, and carbon dioxide emissions from the electric generating sector.

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IN THE SENATE OF THE UNITED STATES

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

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**A BILL**

To amend the Clean Air Act to establish a regulatory program for sulfur dioxide, nitrogen oxides, mercury, and carbon dioxide emissions from the electric generating sector.

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; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the  
5 “Clean Air/Climate Change Act of 2007”.

6 (b) **TABLE OF CONTENTS.**—The table of contents of  
7 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Findings and purposes.

## TITLE I—GENERAL PROVISIONS

- Sec. 101. New source performance standard.
- Sec. 102. New source review program.
- Sec. 103. Integrated air quality planning for the electric generating sector.
- Sec. 104. Revisions to sulfur dioxide allowance program.
- Sec. 105. Air quality forecasts and warnings.
- Sec. 106. Relationship to other law.

## TITLE II—GREENHOUSE GAS OFFSETS

- Sec. 201. Greenhouse gas offsets.

**1 SEC. 2. FINDINGS AND PURPOSES.**

2 (a) FINDINGS.—Congress finds that—

3 (1) in 1992, the United States became a signa-  
4 tory to the United Nations Framework Convention  
5 on Climate Change in recognition of the need to  
6 begin to decrease greenhouse gas emission levels to  
7 1990 levels;

8 (2) fossil fuel-fired electric generating sources,  
9 consisting of units fueled by coal, fuel oil, and nat-  
10 ural gas, produce nearly  $\frac{2}{3}$  of the electricity gen-  
11 erated in the United States;

12 (3) fossil fuel-fired electric generating units  
13 produce approximately 67 percent of the total sulfur  
14 dioxide emissions, 23 percent of the total nitrogen  
15 oxides emissions, 40 percent of the total mercury  
16 emissions, and 40 percent of the total carbon dioxide  
17 emissions in the United States;

18 (4) as of the date of enactment of this Act,  
19 nearly  $\frac{3}{4}$  of all coal-fired electricity generating units  
20 are more than 30 years old;

1           (5)(A) many electric generating units have been  
2 exempt from the emission limitations applicable to  
3 new units based on the expectation that over time  
4 the units would be retired or updated with new pol-  
5 lution control equipment; but

6           (B) many of the exempted units continue to op-  
7 erate and emit pollutants at relatively high rates;

8           (6) many owners of electric generating units  
9 have failed—

10           (A) to install best available control tech-  
11 nology for emissions reductions; and

12           (B) to retire the units, as anticipated by  
13 Congress in the new source review provisions of  
14 the prevention of significant deterioration and  
15 nonattainment programs of the Clean Air Act  
16 (42 U.S.C. 7401 et seq.);

17           (7) the Clean Air Act (42 U.S.C. 7401 et seq.)  
18 regulates substances (including carbon dioxide)  
19 that—

20           (A) are emitted into the ambient air; and

21           (B) affect the weather and the climate;

22           (8)(A) as of the date of enactment of this Act—

23           (i) many class I areas (as designated under  
24 section 162(a) of the Clean Air Act (42 U.S.C.  
25 7472(a))) are impaired by haze pollution;

1           (ii) the ecosystems of many class I areas  
2           are adversely affected by deposits of acidic and  
3           toxic compounds; and

4           (iii) the air quality of many class I areas  
5           fails to meet national ambient air quality stand-  
6           ards; and

7           (B)(i) fossil-fuel fired electric generating units  
8           are a major source of air pollution impacting class  
9           I areas; and

10          (ii) proposed new fossil-fuel fired electric gener-  
11          ating units threaten to increase air pollution in class  
12          I areas throughout the United States;

13          (9) according to the Energy Outlook for 2006  
14          of the Energy Information Administration, carbon  
15          dioxide emissions from electric generating units in  
16          the Unites States have increased by 32 percent dur-  
17          ing the period of 1990 through 2006 to at least  
18          2,300,000,000 metric tons of carbon dioxide in  
19          2006;

20          (10) the ability of owners of electric generating  
21          units to plan effectively for the future is impeded by  
22          the uncertainties surrounding future environmental  
23          regulatory requirements;

24          (11) according to the National Energy Tech-  
25          nology Laboratory of the Department of Energy—

1 (A) as of the date of enactment of this  
2 Act, 159 new coal-fired electric generating units  
3 are proposed to be constructed, which would  
4 produce 96 gigawatts of new electric generating  
5 capacity; and

6 (B) if the units described in subparagraph  
7 (A) are constructed, the units would produce—

8 (i) an incremental increase of  
9 500,000,000 tons of carbon dioxide per  
10 year from the production by the power sec-  
11 tor in the United States as in existence on  
12 the date of enactment of this Act; and

13 (ii) an estimated 30,000,000,000 ad-  
14 ditional tons of carbon dioxide over the  
15 course of the useful lives of the units (as-  
16 suming a lifespan of 60 years);

17 (12) by December 31, 2015, emissions of car-  
18 bon dioxide from the United States electric utility  
19 sector should be limited to 2,100,000,000 metric  
20 tons;

21 (13) a report of the Congressional Budget Of-  
22 fice, dated September 19, 2006, concluded that—

23 (A) relying exclusively on research and de-  
24 velopment funding is not the most effective

1 strategy for reducing greenhouse gas emissions;  
2 and

3 (B) combining research and development  
4 funding with a gradually-increasing limitation  
5 on emissions is a more cost-effective approach;

6 (14)(A) agriculture can be part of the solution  
7 to reducing greenhouse gas emissions;

8 (B) less productive agricultural land can be re-  
9 forested with carbon dioxide-consuming trees;

10 (C) farming practices can be improved to in-  
11 crease the absorption and retention of carbon in ag-  
12 ricultural soils;

13 (D) biomass from agricultural sources (includ-  
14 ing corn and grass) can be used to produce biofuels  
15 that can take the place of high-carbon fossil fuels  
16 used in transportation and power generation; and

17 (E) many of the farming practices and land use  
18 changes involved in achieving those reductions have  
19 multiple benefits, including—

20 (i) improving soil, water, and air quality;

21 (ii) increasing wildlife habitat; and

22 (iii) providing additional recreational op-  
23 portunities; and

24 (15) States and regions have adopted programs  
25 to address carbon dioxide emissions from electric

1       generating units, and Federal regulations relating to  
2       carbon dioxide emissions should take those programs  
3       into consideration.

4       (b) PURPOSES.—The purposes of this Act are—

5           (1) to protect and preserve the environment and  
6       safeguard public health by ensuring that substantial  
7       emission reductions are achieved at fossil fuel-fired  
8       electric generating units;

9           (2) to ensure that air quality of national parks  
10      and all other class I areas (as designated by section  
11      162(a) of the Clean Air Act (42 U.S.C. 7472(a)))  
12      affected by emissions from fossil fuel-fired electric  
13      generating units is significantly improved;

14          (3) to reduce significantly the quantities of  
15      mercury, sulfur dioxide, nitrogen oxides, and carbon  
16      dioxide that enter the environment as a result of the  
17      combustion of fossil fuels;

18          (4) to encourage the development and use of re-  
19      newable energy;

20          (5) to internalize the cost of protecting the val-  
21      ues of public health, air, land, and water quality;

22          (6) to provide a period of environmental regu-  
23      latory stability for owners and operators of electric  
24      generating units so as to promote improved manage-

1       ment of existing assets and new capital investments;  
2       and

3               (7) to achieve emission reductions from electric  
4       generating units in a cost-effective manner.

## 5       **TITLE I—GENERAL PROVISIONS**

### 6       **SEC. 101. NEW SOURCE PERFORMANCE STANDARD.**

7       Section 111 of the Clean Air Act (42 U.S.C. 7411)  
8       is amended by adding at the end the following:

9               “(k) STANDARD OF PERFORMANCE FOR NEW ELEC-  
10       TRIC GENERATING FACILITIES.—

11               “(1) IN GENERAL.—Each electric generating  
12       unit constructed or modified after January 1, 2015,  
13       shall meet a standard of performance equivalent to  
14       an emission limitation of 1,100 pounds of carbon di-  
15       oxide per megawatt-hour or less.

16               “(2) ELIGIBILITY FOR CARBON DIOXIDE AL-  
17       LOWANCES.—Beginning on January 1, 2007, each of  
18       the first 30 electric generating units to achieve the  
19       standard of performance described in paragraph (1)  
20       (or a revised standard under paragraph (4), as ap-  
21       plicable) shall be eligible to participate in the Cli-  
22       mate Champions Program under section 707.

23               “(3) TREATMENT OF CERTAIN CARBON DIOX-  
24       IDE.—Carbon dioxide that is injected into a geologi-  
25       cal formation in a manner that prevents any release

1 of the carbon dioxide into the atmosphere shall not  
2 be considered to be carbon dioxide emissions from  
3 an electric generating unit for purposes of the stand-  
4 ard of performance under paragraph (1).

5 “(4) REVIEW.—

6 “(A) IN GENERAL.—Not later than Janu-  
7 ary 1, 2015, and every 8 years thereafter, the  
8 Administrator shall review the applicable stand-  
9 ards of performance for new electric generating  
10 units with respect to carbon dioxide emissions  
11 to determine whether the emission limitation for  
12 the units under paragraph (1) should be de-  
13 creased, based on the best available techno-  
14 logical system of continuous emission reduction.

15 “(B) TREATMENT.—A determination by  
16 the Administrator under subparagraph (A) shall  
17 be—

18 “(i) published in the Federal Register  
19 not later than the deadline described in  
20 that subparagraph for the applicable re-  
21 view; and

22 “(ii) considered to be final agency ac-  
23 tion for purposes of section 307(b)(1).”.

1 **SEC. 102. NEW SOURCE REVIEW PROGRAM.**

2 Section 165 of the Clean Air Act (42 U.S.C. 7475)  
3 is amended by adding at the end the following:

4 “(f) REVISIONS TO NEW SOURCE REVIEW PRO-  
5 GRAM.—

6 “(1) DEFINITIONS.—In this subsection:

7 “(A) AFFECTED UNIT.—The term ‘af-  
8 fected unit’ has the meaning given the term in  
9 section 701.

10 “(B) NEW SOURCE REVIEW PROGRAM.—

11 The term ‘new source review program’ means  
12 the program to carry out this part and part D.

13 “(2) PERFORMANCE STANDARDS.—

14 “(A) IN GENERAL.—Except as provided in  
15 subparagraph (B), beginning January 1, 2020,  
16 and on each January 1 thereafter, each affected  
17 unit that has been in operation 40 or more  
18 years as of that January 1 shall meet perform-  
19 ance standards of—

20 “(i) 2 lbs/MWh for sulfur dioxide; and

21 “(ii) 1 lbs/MWh for nitrogen oxides.

22 “(B) EXCEPTION.—

23 “(i) IN GENERAL.—Notwithstanding  
24 subparagraph (A), an affected unit that, as  
25 of January 1, 2020, is required to meet a  
26 more stringent performance standard than

1 the applicable standard under subpara-  
2 graph (A) shall continue to meet the more  
3 stringent standard.

4 “(ii) MODIFICATION OF AFFECTED  
5 UNITS.—The requirements of this section  
6 shall not affect in any way any require-  
7 ment under section 111(a)(4), this part, or  
8 part D governing modifications of major  
9 stationary sources.

10 “(3) NO EFFECT ON OTHER REQUIREMENTS  
11 AND RETENTION OF STATE AUTHORITY.—Nothing in  
12 this subsection affects—

13 “(A) any State authority under section  
14 116; or

15 “(B) the obligation of any State or local  
16 government or any major emitting facility to  
17 comply with the requirements of this section.”.

18 **SEC. 103. INTEGRATED AIR QUALITY PLANNING FOR THE**  
19 **ELECTRIC GENERATING SECTOR.**

20 The Clean Air Act (42 U.S.C. 7401 et seq.) is amend-  
21 ed by adding at the end the following:

1 **“TITLE VII—INTEGRATED AIR**  
2 **QUALITY PLANNING FOR THE**  
3 **ELECTRIC GENERATING SEC-**  
4 **TOR**

“TITLE VII—INTEGRATED AIR QUALITY PLANNING FOR THE  
ELECTRIC GENERATING SECTOR

“Sec. 701. Definitions.

“Sec. 702. National pollutant tonnage limitations.

“Sec. 703. Nitrogen oxide trading program.

“Sec. 704. Mercury program.

“Sec. 705. Carbon dioxide allowance trading program.

“Sec. 706. Conventional pulverized coal facilities.

“Sec. 707. Climate Champions Program.

“Sec. 708. Auction of carbon dioxide allowances.

5 **“SEC. 701. DEFINITIONS.**

6 “In this title:

7 “(1) **AFFECTED SOURCE.**—The term ‘affected  
8 source’ means a source that includes 1 or more af-  
9 fected units.

10 “(2) **AFFECTED UNIT.**—

11 “(A) **CARBON DIOXIDE.**—

12 “(i) **IN GENERAL.**—The term ‘affected  
13 unit’, with respect to carbon dioxide,  
14 means an electric generating unit that, on  
15 or after January 1, 2000, served a gener-  
16 ator producing electricity for sale with a  
17 nameplate capacity of greater than 25  
18 megawatts.

1                   “(ii) EXCLUSION.—The term ‘affected  
2 unit’, with respect to carbon dioxide, does  
3 not include a unit that—

4                   “(I) cogenerates useful steam  
5 and electricity; but

6                   “(II) is not a cogeneration unit.

7                   “(B) MERCURY.—

8                   “(i) IN GENERAL.—The term ‘affected  
9 unit’, with respect to mercury, means a  
10 coal-fired electric generating unit that, on  
11 or after January 1, 1985, served a gener-  
12 ator producing electricity for sale with a  
13 nameplate capacity greater than 25  
14 megawatts.

15                   “(ii) EXCLUSION.—The term ‘affected  
16 unit’, with respect to mercury, does not in-  
17 clude a unit that—

18                   “(I) cogenerates useful steam  
19 and electricity; but

20                   “(II) is not a cogeneration unit.

21                   “(C) NITROGEN OXIDES.—

22                   “(i) IN GENERAL.—The term ‘affected  
23 unit’, with respect to nitrogen oxides,  
24 means a fossil fuel-fired electric generating  
25 unit that, on or after January 1, 1985,

1 served a generator producing electricity for  
2 sale with a nameplate capacity greater  
3 than 25 megawatts.

4 “(ii) EXCLUSION.—The term ‘affected  
5 unit’, with respect to nitrogen oxides, does  
6 not include a unit that—

7 “(I) cogenerates useful steam  
8 and electricity; but

9 “(II) is not a cogeneration unit.

10 “(D) SULFUR DIOXIDE.—The term ‘af-  
11 fected unit’, with respect to sulfur dioxide, has  
12 the meaning given the term in section 402.

13 “(3) CAIR.—The term ‘CAIR’ means the rule  
14 promulgated by the Administrator entitled the  
15 ‘Clean Air Interstate Rule’ (70 Fed. Reg. 25162  
16 (May 12, 2005)) (as in effect on the date of enact-  
17 ment of this title).

18 “(4) CAIR STATE.—The term ‘CAIR State’  
19 means each State that is subject to the annual emis-  
20 sion limitation and allowance trading program for  
21 nitrogen oxides and sulfur dioxide under CAIR, in-  
22 cluding, as of the date of enactment of this Act—

23 “(A) Alabama;

24 “(B) Delaware;

25 “(C) the District of Columbia;

1 “(D) Florida;  
2 “(E) Georgia;  
3 “(F) Illinois;  
4 “(G) Indiana;  
5 “(H) Iowa;  
6 “(I) Kentucky;  
7 “(J) Louisiana;  
8 “(K) Maryland;  
9 “(L) Michigan;  
10 “(M) Minnesota;  
11 “(N) Mississippi;  
12 “(O) Missouri;  
13 “(P) New Jersey;  
14 “(Q) New York;  
15 “(R) North Carolina;  
16 “(S) Ohio;  
17 “(T) Pennsylvania;  
18 “(U) South Carolina;  
19 “(V) Tennessee;  
20 “(W) Texas;  
21 “(X) Virginia;  
22 “(Y) West Virginia; and  
23 “(Z) Wisconsin.

24 “(5) CARBON DIOXIDE ALLOWANCE.—The term  
25 ‘carbon dioxide allowance’ means an authorization

1 allocated by the Administrator under this title to  
2 emit 1 ton of carbon dioxide during or after a speci-  
3 fied calendar year.

4 “(6) COGENERATION UNIT.—The term ‘cogen-  
5 eration unit’ means a unit that—

6 “(A) cogenerates—

7 “(i) useful steam; and

8 “(ii) electricity; and

9 “(B) supplies, in any calendar year, to any  
10 utility power distribution system for sale—

11 “(i) more than  $\frac{1}{3}$  of the potential  
12 electric output capacity of the unit; and

13 “(ii) more than 219,000 megawatt-  
14 hours of electrical output.

15 “(7) DESIGNATED REPRESENTATIVE.—The  
16 term ‘designated representative’ means a responsible  
17 person or official authorized by the owner or oper-  
18 ator of an affected source to represent the owner or  
19 operator in any matter relating to—

20 “(A) the holding, transfer, or disposition of  
21 an allowance under this title; or

22 “(B) any submission concerning, and com-  
23 pliance with, any requirement of this title for  
24 the affected source.

1           “(8) FOSSIL FUEL.—The term ‘fossil fuel’ in-  
2           cludes—

3                   “(A) natural gas;

4                   “(B) petroleum;

5                   “(C) coal; and

6                   “(D) any form of solid, liquid, or gaseous  
7           fuel derived from a material described in any of  
8           subparagraphs (A) through (C).

9           “(9) FOSSIL FUEL-FIRED.—The term ‘fossil  
10          fuel-fired’ means the combustion of any quantity of  
11          a fossil fuel during any calendar year.

12          “(10) GREENHOUSE GAS.—The term ‘green-  
13          house gas’ means any of—

14                   “(A) carbon dioxide;

15                   “(B) methane (CH<sub>4</sub>);

16                   “(C) nitrous oxide (N<sub>2</sub>O);

17                   “(D) hydrofluorocarbons (HFC–23, HFC–  
18          32, HFC–41, HFC–43–10mee, HFC–125,  
19          HFC–134, HFC–134a, HFC–152a, HFC–143,  
20          HFC–143a, HFC–227ea, HFC–236fa, and  
21          HFC–245ca);

22                   “(E) perfluorocarbons (CF<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, C<sub>3</sub>F<sub>8</sub>,  
23          C<sub>4</sub>F<sub>10</sub>, C–C<sub>4</sub>F<sub>8</sub>, C<sub>5</sub>F<sub>12</sub>, and C<sub>6</sub>F<sub>14</sub>); and

24                   “(F) sulfur hexafluoride (SF<sub>6</sub>).

1           “(11) NEW UNIT.—The term ‘new unit’ means  
2           an affected unit that has operated for not more than  
3           3 years and is not eligible to receive nitrogen oxide  
4           allowances under the regulations promulgated by the  
5           Administrator pursuant to section 705(b).

6           “(12) NITROGEN OXIDE ALLOWANCE.—The  
7           term ‘nitrogen oxide allowance’ means an authoriza-  
8           tion allocated by the Administrator under this title  
9           to emit 1 ton of nitrogen oxides during or after a  
10          specified calendar year.

11          “(13) SEQUESTRATION.—The term ‘sequestra-  
12          tion’ means the action of sequestering carbon dioxide  
13          by—

14                 “(A) enhancing a natural carbon dioxide  
15                 sink (such as through afforestation); or

16                 “(B)(i) capturing the carbon dioxide emit-  
17                 ted from relevant industrial units and a fossil  
18                 fuel-based energy system; and

19                 “(ii)(I) storing the carbon dioxide in a geo-  
20                 logic formation in a manner that prevents any  
21                 release of the carbon dioxide; or

22                 “(II) converting the carbon dioxide to a be-  
23                 nign solid material through a biological or  
24                 chemical process.

1           “(14) SULFUR DIOXIDE ALLOWANCE.—The  
2 term ‘sulfur dioxide allowance’ has the meaning  
3 given the term ‘allowance’ in section 402.

4           “(15) UNIT.—The term ‘unit’ means a combus-  
5 tion device.

6           “(16) USEFUL ENERGY.—The term ‘useful en-  
7 ergy’, with respect to a cogeneration unit, means the  
8 total quantity of useful energy (including electrical  
9 generation and useful steam) as determined by the  
10 Administrator.

11           “(17) ZONE 1 STATE.—The term ‘Zone 1  
12 State’ means—

13                   “(A) any CAIR State;

14                   “(B) Arkansas;

15                   “(C) Connecticut;

16                   “(D) Massachusetts;

17                   “(E) Maine;

18                   “(F) New Hampshire;

19                   “(G) Rhode Island; and

20                   “(H) Vermont.

21           “(18) ZONE 2 STATE.—The term ‘Zone 2 State’  
22 means any of the 48 contiguous States that is not  
23 a Zone 1 State.

1 **“SEC. 702. NATIONAL POLLUTANT TONNAGE LIMITATIONS.**

2 “(a) SULFUR DIOXIDE.—The annual tonnage limita-  
3 tion for emissions of sulfur dioxide shall be equal to—

4 “(1) for each of calendar years 2010 through  
5 2014, for affected units subject to CAIR, 3,500,000  
6 tons, in accordance with CAIR; and

7 “(2) for calendar year 2015 and each calendar  
8 year thereafter, for all affected units in the 48 con-  
9 tiguous States, 2,000,000 tons.

10 “(b) NITROGEN OXIDES.—The Administrator shall  
11 allocate an annual tonnage limitation for emissions of ni-  
12 trogen oxides in a quantity that is equal to—

13 “(1) for each of calendar years 2009 through  
14 2014, for affected units subject to CAIR, 1,450,000  
15 tons; and

16 “(2) for calendar year 2015 and each calendar  
17 year thereafter—

18 “(A) for affected units in Zone 1 States,  
19 1,300,000 tons; and

20 “(B) for affected units in Zone 2 States,  
21 320,000 tons.

22 “(c) MERCURY.—The emission of mercury from af-  
23 fected units shall be limited in accordance with section  
24 704.

25 “(d) CARBON DIOXIDE.—The annual tonnage limita-  
26 tion for emissions of carbon dioxide from affected units

1 in the 48 contiguous States shall be equal to, as deter-  
2 mined by the Administrator based on certified and quality-  
3 assured continuous emissions monitoring data for carbon  
4 dioxide reported to the Administrator by affected units in  
5 accordance with this Act—

6 “(1) for each of calendar years 2011 through  
7 2014, 2,300,000,000 metric tons;

8 “(2) for each of calendar years 2015 through  
9 2019, 2,100,000,000 metric tons;

10 “(3) for each calendar years 2020 through  
11 2024, 1,800,000,000 metric tons; and

12 “(4) for calendar year 2025 and each calendar  
13 year thereafter, 1,500,000,000 metric tons.

14 “(e) REDUCTION OF EMISSIONS FROM SPECIFIED  
15 AFFECTED UNITS.—Notwithstanding the annual tonnage  
16 limitations and mercury emissions requirements estab-  
17 lished under this section, the Federal Government or a  
18 State government may require that emissions from a spec-  
19 ified affected unit be reduced.

20 “(f) CAIR STATES.—

21 “(1) IN GENERAL.—Each CAIR State shall  
22 comply with the applicable requirements of CAIR.

23 “(2) EXCEPTION.—Notwithstanding paragraph  
24 (1), CAIR shall not apply to—

1           “(A) annual emissions of nitrogen oxides  
2           emitted during calendar year 2015 and there-  
3           after; or

4           “(B) annual emissions of sulfur dioxide  
5           emitted during calendar year 2015 and there-  
6           after.

7   **“SEC. 703. NITROGEN OXIDE TRADING PROGRAM.**

8           “(a) REGULATIONS.—

9           “(1) IN GENERAL.—Not later than 2 years  
10          after the date of enactment of this title, the Admin-  
11          istrator shall promulgate regulations to establish for  
12          affected units in the 48 contiguous States a nitrogen  
13          oxide allowance trading program.

14          “(2) REQUIREMENTS.—Regulations promul-  
15          gated under paragraph (1) shall establish require-  
16          ments for the allowance trading program under this  
17          section, including requirements concerning—

18                 “(A)(i) the allocation, issuance, recording,  
19                 tracking, transfer, and use of nitrogen oxide al-  
20                 lowances; and

21                 “(ii) the public availability of all informa-  
22                 tion concerning the activities described in clause  
23                 (i) that is not confidential business information;

24                 “(B) compliance with subsection (d)(1);

1           “(C) the monitoring and reporting of emis-  
2           sions under paragraphs (2) and (3) of sub-  
3           section (d); and

4           “(D) excess emission penalties under sub-  
5           section (d)(4).

6           “(b) NITROGEN OXIDE ALLOCATIONS.—

7           “(1) TIMING OF ALLOCATIONS.—Not later than  
8           2 years after the date of enactment of this title, the  
9           Administrator shall allocate nitrogen oxide allow-  
10          ances to affected units.

11          “(2) ALLOCATIONS TO AFFECTED UNITS.—

12           “(A) ZONE 1 STATES.—The Administrator  
13           shall allocate, to each affected unit in a Zone 1  
14           State, a quantity of nitrogen oxide allowances  
15           that is equal to the product obtained by multi-  
16           plying—

17           “(i) the quantity of nitrogen oxide al-  
18           lowances available for allocation under sec-  
19           tion 702(b)(2)(A); and

20           “(ii) the quotient obtained by divid-  
21           ing—

22           “(I) the adjusted average heat  
23           input (measured in mmBtus), of the  
24           affected unit during calendar years  
25           2006 through 2008; by



1 unit that begins operation before January  
2 1, 2006, shall be equal to the product ob-  
3 tained by multiplying (using factors, emis-  
4 sion rates, and categories of units deter-  
5 mined by the Administrator)—

6 “(I) the heat input of the af-  
7 fected unit for the calendar year; and

8 “(II) a factor reflecting—

9 “(aa) the category of the af-  
10 fected unit, based on the types of  
11 fuels combusted by the affected  
12 unit during the calendar year;  
13 and

14 “(bb) the actual nitrogen ox-  
15 ides emission rate (expressed in  
16 tons of nitrogen oxides emitted  
17 per mmBtu) that is generally ap-  
18 plicable to that category of af-  
19 fected units.

20 “(ii) AVERAGE.—The average ad-  
21 justed heat input of an affected unit for a  
22 3-calendar year period described in sub-  
23 paragraph (A)(ii)(I) or (B)(ii)(I) shall be  
24 equal to the quotient obtained by divid-  
25 ing—

1                   “(I) the sum of the adjusted heat  
2                   input quantities, as determined under  
3                   clause (i), for each calendar year of  
4                   the 3-calendar year period; by

5                   “(II) 3.

6                   “(3) ADJUSTMENT OF ALLOCATIONS.—If, for  
7                   any calendar year, the total quantities of allowances  
8                   allocated under paragraph (2) are not equal to the  
9                   applicable quantities determined under section  
10                  702(b)(2), the Administrator shall adjust the quan-  
11                  tities of allowances allocated to affected units on a  
12                  pro-rata basis so that the quantities are equal to the  
13                  applicable quantities determined under section  
14                  702(b)(2).

15                  “(4) ALLOWANCE NOT A PROPERTY RIGHT.—A  
16                  nitrogen oxide allowance—

17                         “(A) is not a property right; and

18                         “(B) may be terminated or limited by the  
19                  Administrator.

20                  “(5) NO JUDICIAL REVIEW.—An allocation of  
21                  nitrogen oxide allowances by the Administrator  
22                  under this subsection, and a determination of a  
23                  value used in calculating the allocation, shall not be  
24                  subject to judicial review.

1           “(c) NITROGEN OXIDE ALLOWANCE TRANSFER SYS-  
2 TEM.—

3           “(1) USE OF ALLOWANCES.—The regulations  
4 promulgated under subsection (a)(1) shall—

5           “(A) prohibit the use (but not the transfer  
6 in accordance with paragraph (3)) of any nitro-  
7 gen oxide allowance before the calendar year for  
8 which the allowance is allocated;

9           “(B) provide that unused nitrogen oxide  
10 allowances may be carried forward and added  
11 to nitrogen oxide allowances allocated for subse-  
12 quent years;

13           “(C) provide that unused nitrogen oxide al-  
14 lowances may be transferred by—

15           “(i) the person to which the allow-  
16 ances are allocated; or

17           “(ii) any person to which the allow-  
18 ances are transferred; and

19           “(D) provide that, to achieve compliance  
20 with paragraphs (1) and (4) of subsection (d)—

21           “(i) the owner and operator of an af-  
22 fected unit in a Zone 1 State shall use only  
23 nitrogen oxide allowances allocated to af-  
24 fected units in Zone 1 States; and

1                   “(ii) the owner and operator of an af-  
2                   fected unit in a Zone 2 State shall use only  
3                   nitrogen oxide allowances allocated to af-  
4                   fected units in Zone 2 States.

5                   “(2) USE BY PERSONS TO WHICH ALLOWANCES  
6                   ARE TRANSFERRED.—Any person to which nitrogen  
7                   oxide allowances are transferred under paragraph  
8                   (1)(C)—

9                   “(A) may use the nitrogen oxide allow-  
10                  ances in the calendar year for which the nitro-  
11                  gen oxide allowances were allocated, or in a  
12                  subsequent calendar year, to achieve compliance  
13                  with subsection (d)(1); or

14                  “(B) may transfer the nitrogen oxide al-  
15                  lowances to any other person.

16                  “(3) CERTIFICATION OF TRANSFER.—A trans-  
17                  fer of a nitrogen oxide allowance shall not take ef-  
18                  fect until a certification of the transfer, authorized  
19                  by a responsible official of the person making the  
20                  transfer, is received and recorded by the Adminis-  
21                  trator.

22                  “(4) PERMIT REQUIREMENTS.—An allocation  
23                  or transfer of nitrogen oxide allowances to an af-  
24                  fected unit shall, after recording by the Adminis-  
25                  trator, be considered to be part of the federally en-

1 forceable permit of the affected unit under this Act,  
2 without a requirement for any further review or revi-  
3 sion of the permit.

4 “(d) COMPLIANCE AND ENFORCEMENT.—

5 “(1) IN GENERAL.—For calendar year 2015  
6 and each calendar year thereafter, the owner and op-  
7 erator of each affected source shall hold for the af-  
8 fected source and surrender to the Administrator a  
9 quantity of nitrogen oxide allowances that is equal  
10 to the total tons of nitrogen oxides emitted by the  
11 affected units of the affected source during the cal-  
12 endar year.

13 “(2) MONITORING SYSTEM.—The Administrator  
14 shall promulgate regulations requiring—

15 “(A) installation, operation, reporting, and  
16 certification of continuous emissions monitoring  
17 systems, or any alternative monitoring system  
18 or methodology that, as determined by the Ad-  
19 ministrator, provides information with the same  
20 precision, reliability, accessibility, and timeli-  
21 ness as that provided by continuous emission  
22 monitoring system, to measure the quantity of  
23 nitrogen oxides that is emitted from each af-  
24 fected unit;

1           “(B) quality assurance, verification, and  
2 reporting of nitrogen oxides emissions at each  
3 affected unit; and

4           “(C) if continuous emission monitoring  
5 system data, or data from an alternative moni-  
6 toring system approved by the Administrator, is  
7 not available for an affected unit during any pe-  
8 riod of a calendar year for which the data is re-  
9 quired to be certified under this subsection, and  
10 if the owner or operator of the affected unit  
11 cannot provide information satisfactory to the  
12 Administrator on emissions during that pe-  
13 riod—

14           “(i) treatment of the affected unit as  
15 operating in an uncontrolled manner dur-  
16 ing the entire period for which the data  
17 was not available; and

18           “(ii) calculation of emissions for that  
19 period as prescribed by the Administrator.

20           “(3) REPORTING.—

21           “(A) IN GENERAL.—Not less often than  
22 quarterly, the designated representative of the  
23 owner or operator of an affected unit shall sub-  
24 mit to the Administrator a report on the moni-  
25 toring of emissions of nitrogen oxides carried

1 out by the owner or operator in accordance with  
2 the regulations promulgated under paragraph  
3 (2).

4 “(B) AUTHORIZATION.—Each report sub-  
5 mitted under subparagraph (A) shall be author-  
6 ized by the designated representative of the af-  
7 fected unit, who shall certify the accuracy of  
8 the report.

9 “(C) PUBLIC REPORTING.—The Adminis-  
10 trator shall make available to the public,  
11 through 1 or more published reports and 1 or  
12 more forms of electronic media, data concerning  
13 the emissions of nitrogen oxides from each af-  
14 fected unit.

15 “(4) EXCESS EMISSIONS.—The owner and oper-  
16 ator of an affected source the affected units of which  
17 emit, during a calendar year specified in paragraph  
18 (1), nitrogen oxides in excess of the nitrogen oxide  
19 allowances held for use by the affected source for  
20 the calendar year shall offset, and pay an excess  
21 emissions penalty for, the excess emissions by sur-  
22 rendering to the Administrator a quantity of nitro-  
23 gen oxides allowances for the following calendar  
24 year, or such earlier period as the Administrator

1        may prescribe, equal to the product obtained by mul-  
2        tipling—

3                “(A) the number of tons of the excess  
4                emissions; and

5                “(B) 2.

6        “(e) EFFECT.—Nothing in this section limits or oth-  
7        erwise affects the application of section 113, 114, 120, or  
8        304.

9        **“SEC. 704. MERCURY PROGRAM.**

10        “(a) DEFINITION OF INLET MERCURY.—In this sec-  
11        tion, the term ‘inlet mercury’ means the quantity of mer-  
12        cury found—

13                “(1) in the as-fired coal of an affected unit; or

14                “(2) for an affected unit using coal that is sub-  
15        jected to an advanced coal cleaning technology, in  
16        the as-mined coal of the affected unit.

17        “(b) ANNUAL LIMITATION FOR CERTAIN UNITS.—

18        An affected unit that begins operation on or after the date  
19        of enactment of this title shall be subject to the less strin-  
20        gent of the following emission limitations on an annual  
21        average calendar year basis with respect to inlet mercury:

22                “(1) 90 percent capture of inlet mercury.

23                “(2) An emission rate of 0.0060 lbs/GWh.

24        “(c) ANNUAL LIMITATION FOR EXISTING UNITS.—

25        An affected unit in operation on the date of enactment

1 of this title shall be subject to the following emission limi-  
2 tations on an annual average calendar year basis with re-  
3 spect to inlet mercury:

4           “(1) FIRST FULL CALENDAR YEAR BEGINNING  
5           4 YEARS AFTER THE DATE OF ENACTMENT OF  
6           TITLE THROUGH 2014.—For each of the first full  
7           calendar year beginning 4 years after the date of en-  
8           actment of this title through calendar year 2014, the  
9           less stringent limitation of—

10                   “(A) 60 percent capture of inlet mercury;

11                   and

12                   “(B) an emission rate of 0.02 lbs/GWh.

13           “(2) 2015 AND THEREAFTER.—Beginning on  
14           January 1, 2015, the less stringent limitation of—

15                   “(A) 90 percent capture of inlet mercury;

16                   and

17                   “(B) an emission rate of 0.0060 lbs/GWh.

18           “(d) AVERAGING ACROSS UNITS.—An owner or oper-  
19           ator of an affected unit may demonstrate compliance with  
20           the annual average limitations under subsections (b) and  
21           (c) by averaging emissions from all affected units at an  
22           affected source.

23           “(e) MONITORING SYSTEM.—The Administrator shall  
24           promulgate regulations requiring—

1           “(1) installation, operation, reporting, and cer-  
2           tification of continuous emissions monitoring sys-  
3           tems, or any alternative monitoring system or meth-  
4           odology that, as determined by the Administrator,  
5           provides information with the same precision, reli-  
6           ability, accessibility, and timeliness as that provided  
7           by continuous emission monitors, to measure the  
8           quantity of mercury emitted from each affected unit;

9           “(2) quality assurance, verification, and report-  
10          ing of mercury emissions data at each affected unit;  
11          and

12          “(3) if continuous emission monitoring system  
13          data, or data from an alternative monitoring system  
14          approved by the Administrator, is not available for  
15          an affected unit during any period of a calendar  
16          year for which the data is required to be certified  
17          under this subsection, and if the owner or operator  
18          of the affected unit cannot provide information satis-  
19          factory to the Administrator on emissions during  
20          that period—

21                 “(A) treatment of the affected unit as op-  
22                 erating in an uncontrolled manner during the  
23                 entire period for which the data was not avail-  
24                 able; and

1                   “(B) calculation of emissions for that pe-  
2                   riod as prescribed by the Administrator.

3                   “(f) REPORTING.—

4                   “(1) IN GENERAL.—Not less often than quar-  
5                   terly, the owner or operator of an affected unit shall  
6                   submit to the Administrator a report on the moni-  
7                   toring of emissions of mercury carried out by the  
8                   owner or operator in accordance with the regulations  
9                   promulgated under subsection (e).

10                  “(2) AUTHORIZATION.—Each report submitted  
11                  under paragraph (1) shall be authorized by a des-  
12                  ignated representative of the affected unit, who shall  
13                  certify the accuracy of the report.

14                  “(3) PUBLIC REPORTING.—The Administrator  
15                  shall make available to the public, through 1 or  
16                  more published reports and 1 or more forms of elec-  
17                  tronic media, data concerning the emission of mer-  
18                  cury from each affected unit.

19                  “(g) EXCESS EMISSIONS.—

20                  “(1) PENALTY.—

21                  “(A) IN GENERAL.—The owner and oper-  
22                  ator of an affected unit described in subpara-  
23                  graph (B) shall pay an excess emissions penalty  
24                  determined under paragraph (2).

1           “(B) DESCRIPTION OF AFFECTED  
2           UNITS.—An affected unit referred to in sub-  
3           paragraph (A) is an affected unit that—

4                   “(i) for an affected unit dem-  
5                   onstrating compliance at the unit level,  
6                   emits mercury in excess of an emission  
7                   limitation described in subsection (b) or  
8                   (c); or

9                   “(ii) for an affected unit dem-  
10                  onstrating compliance under subsection  
11                  (d), is part of an affected source that emits  
12                  mercury in excess of the emission limita-  
13                  tion applicable to the affected source.

14           “(2) DETERMINATION OF EXCESS EMISSIONS  
15           PENALTY.—The excess emissions penalty for mer-  
16           cury shall be an amount equal to \$50,000 for each  
17           pound of mercury emitted in excess of the emission  
18           limitation described in subsection (b) or (c), as pro-  
19           rated for each fraction of a pound.

20           “(3) PENALTY ADJUSTMENT.—For each fiscal  
21           year, the Administrator, by regulation, shall adjust  
22           the penalty specified in paragraph (2) to reflect  
23           changes for the 12-month period ending the pre-  
24           ceding November 30 in the Consumer Price Index

1 for All Urban Consumers published by the Bureau  
2 of Labor Statistics of the Department of Labor.

3 “(h) PETITION FOR EXTENSION.—The Adminis-  
4 trator, or the appropriate agency of a State with a pro-  
5 gram approved under title IV, may issue for an affected  
6 unit in existence on the date of enactment of this title  
7 a permit that provides an extension of not more than 1  
8 additional year of a deadline for compliance with any  
9 standard under this section, if the Administrator or agen-  
10 cy determines the extension is necessary for the installa-  
11 tion at the affected unit of an appropriate control tech-  
12 nology.

13 “(i) EFFECT OF SECTION.—Nothing in this section  
14 limits or otherwise affects the application of section 113,  
15 114, 120, or 304.

16 **“SEC. 705. CARBON DIOXIDE ALLOWANCE TRADING PRO-**  
17 **GRAM.**

18 “(a) REGULATIONS.—

19 “(1) IN GENERAL.—Not later than 2 years  
20 after the date of enactment of this title, the Admin-  
21 istrator shall promulgate regulations to establish a  
22 carbon dioxide allowance trading program for af-  
23 fected units in the United States.

24 “(2) REQUIREMENTS.—

1           “(A) OTHER REQUIRED PROGRAMS.—In  
2 promulgating regulations pursuant to para-  
3 graph (1), the Administrator shall ensure that  
4 no carbon dioxide allowance is provided for an  
5 offset project the greenhouse gas reductions  
6 under which are effectively required by any  
7 other Federal, State, or local law (including  
8 regulations) or judicial or administrative order.

9           “(B) OTHER STANDARDS.—In promul-  
10 gating regulations pursuant to paragraph (1),  
11 the Administrator shall require that—

12                   “(i) each reduction or removal of  
13 greenhouse gas emissions for which an off-  
14 set project receives carbon dioxide allow-  
15 ances under this section—

16                           “(I) is not double counted under  
17 this or any other allowance program;

18                           “(II) is a permanent reduction in  
19 greenhouse gas emissions; and

20                           “(III) is monitored as the Ad-  
21 ministrator determines to be appro-  
22 priate with respect to the specific off-  
23 set project type and quantity of car-  
24 bon dioxide allowances provided for  
25 the reduction; and

1                   “(ii) each offset project shall reflect a  
2                   level of performance that, with respect to  
3                   emission reductions or a technology or  
4                   practice, is significantly better than aver-  
5                   age, as compared with recently carried out  
6                   activities or practices.

7                   “(3) STATE OFFSET METHODS.—In promul-  
8                   gating regulations under paragraph (1), the Admin-  
9                   istrator shall take into consideration offset methods  
10                  developed, as of the date of enactment of this title,  
11                  by California or any other State pursuant to the Re-  
12                  gional Greenhouse Gas Initiative or a similar regu-  
13                  latory program with of comparable rigor, as deter-  
14                  mined by the Administrator.

15                  “(b) NEW UNIT RESERVE.—

16                         “(1) ESTABLISHMENT.—

17                                 “(A) IN GENERAL.—For each of calendar  
18                                 years 2011 through 2020, the Administrator  
19                                 shall establish, by regulation, a reserve of car-  
20                                 bon dioxide allowances to be allocated to new  
21                                 affected units fueled by coal that meet the cri-  
22                                 teria under the Climate Champions Program  
23                                 under section 707 for the calendar year.

24                                 “(B) REQUIRED QUANTITY.—For a cal-  
25                                 endar year described in subparagraph (A), the

1 quantity of carbon dioxide allowances in the re-  
2 serve established under this paragraph shall not  
3 exceed 5 percent of the annual tonnage limita-  
4 tion for carbon dioxide specified in section  
5 702(d) for that calendar year.

6 “(2) REQUIRED ALLOCATIONS.—For each of  
7 calendar years 2011 through 2014, the Adminis-  
8 trator shall allocate allowances in the reserve estab-  
9 lished under paragraph (1) to each of the 30 entities  
10 identified under section 707(b)(1).

11 “(3) UNUSED CARBON DIOXIDE ALLOW-  
12 ANCES.—For each calendar year, the Administrator  
13 shall reallocate, to all affected units, any unused car-  
14 bon dioxide allowances from the new unit reserve es-  
15 tablished under paragraph (1) in the proportion  
16 that—

17 “(A) the number of carbon dioxide allow-  
18 ances allocated to each affected unit for the cal-  
19 endar year; bears to

20 “(B) the number of carbon dioxide allow-  
21 ances allocated to all affected units for the cal-  
22 endar year.

23 “(c) CARBON DIOXIDE ALLOCATIONS.—

24 “(1) ALLOCATIONS TO AFFECTED UNITS THAT  
25 ARE NOT NEW UNITS.—

1           “(A) IN GENERAL.—Not later than 2 years  
2 after the date of enactment of this title, the Ad-  
3 ministrator shall allocate, to each affected unit  
4 that is not a new unit, a quantity of carbon di-  
5 oxide allowances that is equal to the product  
6 obtained by multiplying—

7           “(i) the quantity of carbon dioxide al-  
8 lowances available for allocation under  
9 paragraph (2); and

10           “(ii) the quotient obtained by divid-  
11 ing—

12           “(I) the adjusted average heat  
13 input (measured in mmBtus), of the  
14 affected unit during any 3-consecu-  
15 tive-calendar-year period during the  
16 period beginning on January 1, 2000,  
17 and ending on December 31, 2007;  
18 and

19           “(II) the sum of the adjusted  
20 heat input quantities described in sub-  
21 clause (I) with respect to all affected  
22 units that are not new units.

23           “(B) ADJUSTED HEAT INPUT.—

24           “(i) IN GENERAL.—The adjusted heat  
25 input for a calendar year of an affected

1 unit that begins operation before January  
2 1, 2005, shall be equal to the product ob-  
3 tained by multiplying (using factors, emis-  
4 sion rates, and categories of units deter-  
5 mined by the Administrator)—

6 “(I) the heat input of the af-  
7 fected unit for the calendar year;

8 “(II) a factor reflecting the cat-  
9 egory of the affected unit, based on  
10 the types of fuels combusted by the  
11 affected unit during the calendar year;  
12 and

13 “(III) the actual carbon dioxide  
14 emission rate (expressed in tons of  
15 carbon dioxide emitted per mmBtu)  
16 that is generally applicable to that  
17 category of affected units.

18 “(ii) AVERAGE.—The average ad-  
19 justed heat input of an affected unit for a  
20 3-calendar year period described in sub-  
21 paragraph (A)(ii)(I)(bb) shall be equal to  
22 the quotient obtained by dividing—

23 “(I) the sum of the adjusted heat  
24 input quantities, as determined under

1 clause (i), for each calendar year of  
2 the 3-calendar year period; and

3 “(II) 3.

4 “(2) QUANTITY TO BE ALLOCATED.—For each  
5 calendar year, the quantity of carbon dioxide allow-  
6 ances allocated under paragraph (1)(A) to affected  
7 units that are not new units shall be equal to the  
8 difference between—

9 “(A) the annual tonnage limitation for  
10 emissions of carbon dioxide from affected units  
11 specified in section 702(d) for the calendar  
12 year; and

13 “(B) the sum of—

14 “(i) the quantity of carbon dioxide al-  
15 lowances placed in the new unit reserve es-  
16 tablished under subsection (b) for the cal-  
17 endar year; and

18 “(ii) the quantity of carbon dioxide al-  
19 lowances made available for auction under  
20 section 708.

21 “(3) ADJUSTMENT OF ALLOCATIONS.—If the  
22 total quantity of carbon dioxide allowances to be al-  
23 located under paragraph (1) for a calendar year is  
24 more than the total quantity of carbon dioxide allow-  
25 ances available for allocation under paragraph (2)

1 for the calendar year, the Administrator shall allo-  
2 cate to each affected unit a quantity of carbon diox-  
3 ide allowances equal to the proportion that—

4 “(A) the quantity of carbon dioxide allow-  
5 ances to be allocated to the affected unit under  
6 paragraph (1) for the calendar year; bears to

7 “(B) the total quantity of carbon dioxide  
8 allowances to be allocated to all affected units  
9 under paragraph (1) for the calendar year.

10 “(4) ALLOCATIONS TO NEW UNITS.—The Ad-  
11 ministrator shall promulgate regulations to establish  
12 a methodology for allocating carbon dioxide allow-  
13 ances to new units from the new unit reserve under  
14 subsection (b).

15 “(d) USE AND TRANSFER OF CARBON DIOXIDE AL-  
16 LOWANCES.—

17 “(1) USE BEFORE APPLICABLE CALENDAR  
18 YEAR.—A carbon dioxide allowance may not be used  
19 before the calendar year for which the carbon diox-  
20 ide allowance was allocated.

21 “(2) TRANSFER.—

22 “(A) IN GENERAL.—Notwithstanding para-  
23 graph (1), carbon dioxide allowances may be  
24 transferred before the calendar year for which  
25 the carbon dioxide allowances were allocated.

1           “(B) LIMITATION.—The transfer of a car-  
2           bon dioxide allowance shall not take effect until  
3           receipt and recording by the Administrator of a  
4           certification of the transfer, which is executed  
5           by an authorized official of the person making  
6           the transfer.

7           “(3) USE BY PERSONS TO WHICH CARBON DI-  
8           OXIDE ALLOWANCES ARE TRANSFERRED.—Any per-  
9           son to which carbon dioxide allowances are trans-  
10          ferred under paragraph (2)(A) may use the carbon  
11          dioxide allowances in the calendar year for which the  
12          carbon dioxide allowances were allocated, or in a  
13          subsequent calendar year, to demonstrate compli-  
14          ance with subsection (e)(1).

15          “(4) PERMIT REQUIREMENTS.—An allocation  
16          or transfer of carbon dioxide allowances to an af-  
17          fected unit shall be considered to be part of the fed-  
18          erally enforceable permit of the affected unit under  
19          this Act, without a requirement for further review or  
20          revision of the permit.

21          “(e) COMPLIANCE AND ENFORCEMENT.—

22                 “(1) IN GENERAL.—For the first full calendar  
23                 year beginning 4 years after the date of enactment  
24                 of this title and each calendar year thereafter, the  
25                 owner or operator of each affected source shall hold

1 for the affected source and surrender to the Admin-  
2 istrator a quantity of carbon dioxide allowances  
3 equal to the total tons of carbon dioxide emitted by  
4 each affected unit of the affected source during the  
5 calendar year.

6 “(2) EXCESS EMISSIONS.—The owner and oper-  
7 ator of an affected source any affected unit of which  
8 emits carbon dioxide in excess of the carbon dioxide  
9 allowances held for use by the affected source for  
10 the calendar year shall offset, and pay an excess  
11 emissions penalty for, the excess emissions by sur-  
12 rendering to the Administrator a quantity of carbon  
13 dioxide allowances for the following calendar year or  
14 such other period as the Administrator may pre-  
15 scribe equal to the product obtained by multi-  
16 plying—

17 “(A) the number of tons of the excess  
18 emissions; and

19 “(B) 2.

20 “(3) MONITORING SYSTEM.—The Administrator  
21 shall promulgate regulations requiring—

22 “(A) installation, operation, reporting, and  
23 certification of continuous emissions monitoring  
24 systems, or any alternative monitoring system  
25 or methodology that, as determined by the Ad-

1            administrator, provides information with the same  
2            precision, reliability, accessibility, and timeli-  
3            ness as that provided by continuous emission  
4            monitors, to measure the quantity of carbon di-  
5            oxide emitted from each affected unit;

6                  “(B) quality assurance, verification, and  
7            reporting of carbon dioxide emissions data at  
8            each affected unit; and

9                  “(C) if continuous emission monitoring  
10           system data, or data from an alternative moni-  
11           toring system approved by the Administrator, is  
12           not available for an affected unit during any pe-  
13           riod of a calendar year for which the data is re-  
14           quired to be certified under this subsection, and  
15           if the owner or operator of the affected unit  
16           cannot provide information satisfactory to the  
17           Administrator on emissions during that pe-  
18           riod—

19                 “(i) treatment of the affected unit as  
20           operating in an uncontrolled manner dur-  
21           ing the entire period for which the data  
22           was not available; and

23                 “(ii) calculation of emissions for that  
24           period as prescribed by the Administrator.

25           “(4) REPORTING.—

1           “(A) IN GENERAL.—Not less often than  
2           quarterly, the owner or operator of an affected  
3           unit shall submit to the Administrator a report  
4           on the monitoring of emissions of carbon diox-  
5           ide carried out by the owner or operator in ac-  
6           cordance with the regulations promulgated  
7           under paragraph (3).

8           “(B) AUTHORIZATION.—Each report sub-  
9           mitted under subparagraph (A) shall be author-  
10          ized by the designated representative of the af-  
11          fected unit, who shall certify the accuracy of  
12          the report.

13          “(C) PUBLIC REPORTING.—The Adminis-  
14          trator shall make available to the public,  
15          through 1 or more published reports and 1 or  
16          more forms of electronic media, data concerning  
17          the emission of carbon dioxide from each af-  
18          fected unit.

19          “(f) EFFECT OF SECTION.—Nothing in this section  
20          limits or otherwise affects the application of section 113,  
21          114, 120, or 304.

22          “(g) ALLOWANCE NOT A PROPERTY RIGHT.—A car-  
23          bon dioxide allowance—

24                 “(1) is not a property right; and

1           “(2) may be terminated or limited by the Ad-  
2           ministrators.

3           “(h) NO JUDICIAL REVIEW.—An allocation or  
4           issuance of a carbon dioxide allowance by the Adminis-  
5           trator, and the determination of any value used in calcu-  
6           lating the allocation or issuance, shall not be subject to  
7           judicial review.

8           **“SEC. 706. CONVENTIONAL PULVERIZED COAL FACILITIES.**

9           “The correspondence of the Office of Air Quality  
10          Planning and Standards addressing best available control  
11          technology requirements for proposed coal-fired power  
12          plant projects and dated December 13, 2005—

13           “(1) shall be considered to be inconsistent with  
14          section 169(3); and

15           “(2) shall be treated as void and of no effect as  
16          of the date of issuance of the correspondence.

17          **“SEC. 707. CLIMATE CHAMPIONS PROGRAM.**

18          “(a) ESTABLISHMENT.—The Administrator shall es-  
19          tablish a program, to be known as the ‘Climate Champions  
20          Program’.

21          “(b) REWARDS; RECEIPT OF ALLOWANCES.—Under  
22          the Climate Champions Program, the Administrator  
23          shall—

24           “(1) identify and provide such reward as the  
25          Administrator determines to be appropriate to each

1 of the first 30 entities to complete construction of a  
2 new coal-fired electric generating unit that meets  
3 each applicable new source performance standard  
4 under section 102 after the date of enactment of  
5 this title; and

6 “(2) distribute to the 30 entities identified  
7 under paragraph (1) the carbon dioxide allowances  
8 reserved for the entities for the calendar year under  
9 section 705(b)(2).

10 **“SEC. 708. AUCTION OF CARBON DIOXIDE ALLOWANCES.**

11 “(a) IN GENERAL.—Not later than 2 years after the  
12 date of enactment of this title, the Administrator shall  
13 promulgate regulations establishing a procedure for the  
14 auction of 25 percent of the quantity of carbon dioxide  
15 allowances available for calendar year 2011 and each cal-  
16 endar year thereafter.

17 “(b) DEPOSIT OF PROCEEDS.—The Administrator  
18 shall deposit the proceeds from each auction carried out  
19 pursuant to this section into a fund of the Administrator  
20 for use, without further appropriation, for mitigating any  
21 increase in the cost of electricity to electricity consumers  
22 and energy-intensive industries, as determined by the Ad-  
23 ministrator.”.

1 **SEC. 104. REVISIONS TO SULFUR DIOXIDE ALLOWANCE**  
2 **PROGRAM.**

3 (a) IN GENERAL.—Title IV of the Clean Air Act (re-  
4 lating to acid deposition control) (42 U.S.C. 7651 et seq.)  
5 is amended by adding at the end the following:

6 **“SEC. 417. REVISIONS TO SULFUR DIOXIDE ALLOWANCE**  
7 **PROGRAM.**

8 “(a) REGULATIONS.—Not later than 2 years after  
9 the date of enactment of the Clean Air/Climate Change  
10 Act of 2007, the Administrator shall promulgate such revi-  
11 sions to the regulations to implement this title as the Ad-  
12 ministrator determines to be necessary to implement sec-  
13 tion 702(a).

14 “(b) SULFUR DIOXIDE ALLOCATIONS.—

15 “(1) ALLOCATIONS TO ALLOWANCE TRACKING  
16 SYSTEM ACCOUNTS.—

17 “(A) IN GENERAL.—The Administrator  
18 shall allocate 95 percent of the quantity of sul-  
19 fur dioxide allowances provided to achieve com-  
20 pliance with the requirement under section  
21 702(a)(2) to accounts of the allowance tracking  
22 system under section 403(d) in accordance with  
23 the calculation under subparagraph (B).

24 “(B) CALCULATION FOR ALLOCATIONS.—

25 “(i) DEFINITION OF EXISTING QUAN-  
26 TITY.—In this subparagraph, the term ‘ex-

1           isting quantity’, with respect to sulfur di-  
2           oxide allowances, means, as determined by  
3           the Administrator in accordance with part  
4           73 of title 40, Code of Federal Regulations  
5           (or successor regulations)—

6                           “(I) for sulfur dioxide allowances  
7                           allocated for any calendar year before  
8                           calendar year 2016, the quantity of  
9                           sulfur dioxide allowances allocated for  
10                          the calendar year under sections 404  
11                          through 406, and recorded in an ac-  
12                          count of the allowance tracking sys-  
13                          tem under section 403(d), as of 12:00  
14                          p.m., Eastern Standard Time, on the  
15                          date that is 180 days after the date of  
16                          enactment of the Clean Air/Climate  
17                          Change Act of 2007; and

18                          “(II) for sulfur dioxide allow-  
19                          ances allocated for calendar year 2016  
20                          or any calendar year thereafter, the  
21                          quantity described in subclause (I),  
22                          reduced by—

23   “(aa) 7 percent for calendar  
24   year 2016; and

1                   “(bb) an additional 7 per-  
2                   cent for each calendar year there-  
3                   after.

4                   “(ii) CALCULATION.—For calendar  
5                   year 2015 and each calendar year there-  
6                   after, the Administrator shall allocate to  
7                   each account of the allowance tracking sys-  
8                   tem under section 403(d) a quantity of sul-  
9                   fur dioxide allowances equal to the product  
10                  obtained by multiplying—

11                  “(I) the total quantity of allow-  
12                  ances to be allocated under subpara-  
13                  graph (A); and

14                  “(II) the proportion that—

15                         “(aa) the total existing  
16                         quantity of sulfur dioxide allow-  
17                         ances for all calendar years in  
18                         the account; bears to

19                         “(bb) the total existing  
20                         quantities of sulfur dioxide allow-  
21                         ances for all calendar years in all  
22                         accounts.

23                  “(2) ALLOCATIONS TO CERTAIN EXISTING  
24                  UNITS.—

1           “(A) DEFINITION OF EXISTING AFFECTED  
2           UNIT.—In this paragraph, the term ‘existing af-  
3           fected unit’ means an affected unit that—

4                   “(i) was an affected unit on December  
5                   31, 2006;

6                   “(ii) began operation before January  
7                   1, 2001; and

8                   “(iii) does not receive any sulfur diox-  
9                   ide allowance for a calendar year under  
10                  section 404, 405, 406, or 410.

11           “(B) ALLOCATION.—For calendar year  
12           2015 and each calendar year thereafter, the Ad-  
13           ministrators shall allocate 3½ percent of the  
14           quantity of sulfur dioxide allowances provided  
15           to achieve compliance with the requirement  
16           under section 702(a)(2) to existing affected  
17           units in accordance with the applicable calcula-  
18           tion under subparagraph (C).

19           “(C) CALCULATIONS.—

20                   “(i) COAL-FIRED EXISTING AFFECTED  
21                   UNITS.—For calendar year 2015 and each  
22                   calendar year thereafter, the Administrator  
23                   shall allocate to each existing affected unit  
24                   that is a coal-fired existing affected unit a  
25                   quantity of sulfur dioxide allowances equal

1 to the product (expressed in tons) obtained  
2 by multiplying—

3 “(I) the total baseline heat input  
4 of the existing affected unit, as deter-  
5 mined under paragraph (4) (expressed  
6 in mmBtus); and

7 “(II) 0.40 lb/mmBtu.

8 “(ii) OIL-FIRED EXISTING AFFECTED  
9 UNITS.—For calendar year 2015 and each  
10 calendar year thereafter, the Administrator  
11 shall allocate to each existing affected unit  
12 that is an oil-fired existing affected unit a  
13 quantity of sulfur dioxide allowances equal  
14 to the product (expressed in tons) obtained  
15 by multiplying—

16 “(I) the total baseline heat input  
17 of the existing affected unit, as deter-  
18 mined under paragraph (4) (expressed  
19 in mmBtus); and

20 “(II) 0.20 lb/mmBtu.

21 “(iii) OTHER EXISTING AFFECTED  
22 UNITS.—For calendar year 2015 and each  
23 calendar year thereafter, the Administrator  
24 shall allocate to each existing affected unit  
25 that is not a coal-fired or oil-fired existing

1 affected unit a quantity of sulfur dioxide  
2 allowances equal to the product (expressed  
3 in tons) obtained by multiplying—

4 “(I) the total baseline heat input  
5 of the existing affected unit, as deter-  
6 mined under paragraph (4) (expressed  
7 in mmBtus); and

8 “(II) 0.05 lb/mmBtu.

9 “(D) ADJUSTMENT OF ALLOCATIONS.—If  
10 the total quantity of sulfur dioxide allowances  
11 to be allocated under subparagraph (C) for a  
12 calendar year is more than the total quantity of  
13 sulfur dioxide allowances available for allocation  
14 under subparagraph (B) for the calendar year,  
15 the Administrator shall allocate to each existing  
16 affected unit a quantity of sulfur dioxide allow-  
17 ances equal to the product obtained by multi-  
18 plying—

19 “(i) the quantity of sulfur dioxide al-  
20 lowances to be allocated to the existing af-  
21 fected unit under subparagraph (C) for the  
22 calendar year; and

23 “(ii) the proportion that—

24 “(I) the quantity of sulfur diox-  
25 ide allowances to be allocated to the

1 existing affected unit under subpara-  
2 graph (C) for the calendar year; bears  
3 to

4 “(II) the total quantity of sulfur  
5 dioxide allowances to be allocated to  
6 all existing affected units under sub-  
7 paragraph (C) for the calendar year.

8 “(E) EXCESS SUPPLY OF SULFUR DIOXIDE  
9 ALLOWANCES.—Any sulfur dioxide allowance  
10 that is available for allocation under subpara-  
11 graph (B) for a calendar year, but that is not  
12 allocated for the calendar year under subpara-  
13 graph (C), shall be allocated in accordance with  
14 paragraph (3).

15 “(3) ALLOCATION TO CERTAIN NEW UNITS.—

16 “(A) DEFINITION OF NEW AFFECTED  
17 UNIT.—In this paragraph, the term ‘new af-  
18 fected unit’ means an affected unit that—

19 “(i) was an affected unit on December  
20 31, 2006;

21 “(ii) began operation during the pe-  
22 riod beginning on January 1, 2001, and  
23 ending on December 31, 2006; and

1                   “(iii) does not receive any sulfur diox-  
2                   ide allowance for a calendar year under  
3                   section 404, 405, 406, or 410.

4                   “(B) ALLOCATION.—For calendar year  
5                   2015 and each calendar year thereafter, the Ad-  
6                   ministrator shall allocate 1½ percent of the  
7                   quantity of sulfur dioxide allowances provided  
8                   to achieve compliance with the requirement  
9                   under section 702(a)(2) to new affected units in  
10                  accordance with the applicable calculation under  
11                  subparagraph (C).

12                  “(C) CALCULATIONS.—

13                  “(i) COAL-FIRED AND OIL-FIRED NEW  
14                  AFFECTED UNITS.—For calendar year  
15                  2015 and each calendar year thereafter,  
16                  the Administrator shall allocate to each  
17                  new affected unit that is a coal-fired or oil-  
18                  fired new affected unit a quantity of sulfur  
19                  dioxide allowances equal to the product  
20                  (expressed in tons) obtained by multi-  
21                  plying—

22                  “(I) the total baseline heat input  
23                  of the new affected unit, as deter-  
24                  mined under paragraph (4) (expressed  
25                  in mmBtus); and

1 “(II) 0.19 lb/mmBtu.

2 “(ii) OTHER NEW AFFECTED  
3 UNITS.—For calendar year 2015 and each  
4 calendar year thereafter, the Administrator  
5 shall allocate to each new affected unit  
6 that is not a coal-fired or oil-fired new af-  
7 fected unit a quantity of sulfur dioxide al-  
8 lowances equal to the product (expressed  
9 in tons) obtained by multiplying—

10 “(I) the total baseline heat input  
11 of the new affected unit, as deter-  
12 mined under paragraph (4) (expressed  
13 in mmBtus); and

14 “(II) 0.02 lb/mmBtu.

15 “(D) ADJUSTMENT OF ALLOCATIONS.—If  
16 the total quantity of sulfur dioxide allowances  
17 to be allocated under subparagraph (C) for a  
18 calendar year is more than the total quantity of  
19 sulfur dioxide allowances available for allocation  
20 under subparagraph (B) for the calendar year,  
21 the Administrator shall allocate to each new af-  
22 fected unit a quantity of sulfur dioxide allow-  
23 ances equal to the product obtained by multi-  
24 plying—

1                   “(i) the quantity of sulfur dioxide al-  
2                   lowances to be allocated to the new af-  
3                   fected unit under subparagraph (C) for the  
4                   calendar year; and

5                   “(ii) the proportion that—

6                                 “(I) the quantity of sulfur diox-  
7                                 ide allowances to be allocated to the  
8                                 new affected unit under subparagraph  
9                                 (C) for the calendar year; bears to

10                                “(II) the total quantity of sulfur  
11                                dioxide allowances to be allocated to  
12                                all new affected units under subpara-  
13                                graph (C) for the calendar year.

14                   “(E) USE OF OTHER EXCESS SULFUR DI-  
15                   OXIDE ALLOWANCES.—The Administrator shall  
16                   allocate to new affected units any excess allow-  
17                   ance provided pursuant to paragraph (2)(E) in  
18                   accordance with subparagraphs (C) and (D).

19                   “(F) REMAINING SULFUR DIOXIDE ALLOW-  
20                   ANCES.—The Administrator shall allocate, on a  
21                   pro rata basis in accordance with paragraphs  
22                   (1) and (2), any sulfur dioxide allowance that  
23                   is available for allocation, but that is not allo-  
24                   cated, for a calendar year under subparagraph  
25                   (C) to—

1 “(i) appropriate accounts of the allow-  
2 ance tracking system under section 403(d);  
3 and

4 “(ii) existing affected units (as de-  
5 fined in paragraph (2)(A)).

6 “(4) DETERMINATION OF BASELINE HEAT  
7 INPUT.—For purposes of calculations under para-  
8 graphs (2)(C) and (3)(C), the baseline heat input of  
9 an existing affected unit (as defined in paragraph  
10 (2)(A)) or a new affected unit (as defined in para-  
11 graph (3)(A)) shall be equal to the quotient obtained  
12 by dividing—

13 “(A) the sum of the heat input of the af-  
14 fected unit for each of calendar years 2005  
15 through 2007; by

16 “(B) 3.

17 “(5) WITHDRAWAL OF ALLOWANCES.—After  
18 completing the allocations of sulfur dioxide allow-  
19 ances under paragraphs (1), (2), and (3), the Ad-  
20 ministrator shall withdraw from each compliance ac-  
21 count and general account in the allowance tracking  
22 system under section 403(d), and from the special  
23 allowance reserve under section 416, all sulfur diox-  
24 ide allowances allocated or deposited for calendar  
25 year 2015 or any calendar year thereafter.

1           “(6) TIMING OF ALLOCATIONS.—The Adminis-  
2           trator shall carry out each allocation of sulfur diox-  
3           ide allowances required under this subsection for cal-  
4           endar year 2015 or any calendar year thereafter by  
5           not later than December 31, 2011.

6           “(7) NO JUDICIAL REVIEW.—An allocation of  
7           sulfur dioxide allowances by the Administrator under  
8           this subsection, and the determination of a value  
9           used in calculating such an allocation, shall not be  
10          subject to judicial review.”.

11          (b) DEFINITIONS.—Section 402 of the Clean Air Act  
12          (relating to acid deposition control) (42 U.S.C. 7651a) is  
13          amended—

14                 (1) by striking paragraph (2) and inserting the  
15          following:

16                 “(2) AFFECTED UNIT.—

17                         “(A) IN GENERAL.—The term ‘affected  
18                         unit’ means—

19                                 “(i) for a calendar year before cal-  
20                                 endar year 2015, a unit that is subject to  
21                                 emission reduction requirements or limita-  
22                                 tions under section 404, 405, 406, 409, or  
23                                 410; and

24                                 “(ii) subject to subparagraph (B), for  
25                                 calendar year 2015 and each calendar year

1           thereafter, a fossil fuel-fired electric gener-  
2           ating unit that, on or after January 1,  
3           1985, served a generator with a nameplate  
4           capacity greater than 25 megawatts pro-  
5           ducing electricity for sale.

6           “(B) EXCLUSION.—For purposes of sub-  
7           paragraph (A)(ii), the term ‘affected unit’ does  
8           not include a unit that—

9                   “(i) cogenerates steam and electricity;  
10                  but

11                   “(ii) is not a cogeneration unit.

12           “(C) RELATED DEFINITIONS.—For pur-  
13           poses of this paragraph, the terms ‘cogeneration  
14           unit’, ‘fossil fuel-fired’, and ‘unit’ have the  
15           meanings given the terms in section 701.”; and  
16           (2) by striking paragraph (3) and inserting the  
17           following:

18           “(3) ALLOWANCE.—

19                   “(A) IN GENERAL.—Notwithstanding any  
20           other provision of this title, the term ‘allowance’  
21           or ‘sulfur dioxide allowance’ means—

22                   “(i) except as provided in clause (ii),  
23                  an authorization allocated by the Adminis-  
24                  trator under this title to an affected unit  
25                  to emit, during or after a specified cal-

1           endar year, a quantity of sulfur dioxide  
2           emissions equal to 1 ton of sulfur dioxide;  
3           and

4                   “(ii) with respect to a sulfur dioxide  
5           allowance allocated to a unit in a CAIR  
6           State for any of calendar years 2010  
7           through 2014, an authorization allocated  
8           by the Administrator under this title, or  
9           under CAIR, to a unit to emit, during or  
10          after the applicable calendar year, a quan-  
11          tity of sulfur dioxide emissions equal to 1/2  
12          ton of sulfur dioxide.

13                   “(B) RELATED DEFINITIONS.—For pur-  
14          poses of subparagraph (A), the terms ‘CAIR’  
15          and ‘CAIR State’ have the meanings given the  
16          terms in section 701.”.

17          (c) COMPLIANCE.—

18                   (1) PROHIBITION.—Section 403(g) of the Clean  
19          Air Act (relating to acid deposition control) (42  
20          U.S.C. 7651b(g)) is amended by striking the second  
21          sentence and inserting the following: “It shall be un-  
22          lawful for the affected units of any affected source  
23          to emit sulfur dioxide during a calendar year in ex-  
24          cess of the tons of sulfur dioxide emissions author-  
25          ized by the allowances held by the owner or operator

1 of the affected source for the affected source for the  
2 calendar year.”.

3 (2) PERMITS AND COMPLIANCE PLANS.—Sec-  
4 tion 408 of the Clean Air Act (relating to acid depo-  
5 sition control) (42 U.S.C. 7651g) is amended—

6 (A) in subsection (a), by striking para-  
7 graph (1) and inserting the following:

8 “(1) annual emissions of sulfur dioxide in ex-  
9 cess of the tons of sulfur dioxide emissions author-  
10 ized by the allowances held by the owner or oper-  
11 ator, or the designated representative of an owner or  
12 operator, of the affected source for the affected  
13 source for the calendar year,”; and

14 (B) in subsection (b), in the fourth sen-  
15 tence, by striking “to emit not less than the  
16 total annual emissions of the unit” and insert-  
17 ing “authorizing tons of emissions not less than  
18 the total annual emissions of the unit”.

19 (d) EXCESS EMISSIONS.—Section 411 of the Clean  
20 Air Act (relating to acid deposition control) (42 U.S.C.  
21 7651j) is amended by striking subsection (e) and inserting  
22 the following:

23 “(e) EXCESS EMISSIONS OF SULFUR DIOXIDE.—

24 “(1) PENALTY.—

1           “(A) IN GENERAL.—Notwithstanding sub-  
2 sections (a), (b), and (c), the owner and oper-  
3 ator of an affected source the affected units of  
4 which emit, during calendar year 2007 or any  
5 calendar year thereafter, sulfur dioxide in ex-  
6 cess of the tons of sulfur dioxide emissions au-  
7 thorized by the allowances held for use by the  
8 affected source for that calendar year shall off-  
9 set, and pay an excess emissions penalty for,  
10 the excess emissions by surrendering to the Ad-  
11 ministrator a quantity of sulfur dioxide allow-  
12 ances for the following calendar year, or such  
13 earlier period as the Administrator may pre-  
14 scribe, authorizing a number of tons of sulfur  
15 dioxide emissions equal to the product obtained  
16 by multiplying—

17                   “(i) subject to subparagraph (B), the  
18                   number of tons of the excess emissions;

19                   and

20                   “(ii) 2.

21           “(B) TREATMENT OF CERTAIN QUAN-  
22 TITIES OF EMISSIONS.—For purposes of sub-  
23 paragraph (A)(i), a quantity of excess emissions  
24 equal to less than 1 ton shall be considered to

1           be a quantity of excess emissions equal to 1  
2           ton.

3           “(2) TREATMENT OF PENALTY.—An offset and  
4           penalty imposed under paragraph (1) shall be in lieu  
5           of any offset and penalty required under subsection  
6           (a), (b), or (c) with respect to sulfur dioxide emis-  
7           sions.

8           “(f) SAVINGS PROVISION.—Nothing in this section  
9           limits or otherwise affects the application of section 113,  
10          114, 120, or 304.”.

11          (e) TECHNICAL AMENDMENTS.—

12           (1) Title IV of the Clean Air Act (relating to  
13          noise pollution) (42 U.S.C. 7641 et seq.)—

14           (A) is amended by redesignating sections  
15          401 through 403 as sections 801 through 803,  
16          respectively; and

17           (B) is redesignated as title VIII and moved  
18          to appear at the end of that Act.

19           (2) The table of contents for title IV of the  
20          Clean Air Act (relating to acid deposition control)  
21          (42 U.S.C. prec. 7651) is amended by adding at the  
22          end the following:

          “Sec. 417. Revisions to sulfur dioxide allowance program.”.

23          **SEC. 105. AIR QUALITY FORECASTS AND WARNINGS.**

24           (a) REQUIREMENT FOR FORECASTS AND WARN-  
25          INGS.—The Secretary of Commerce, acting through the

1 Administrator of the National Oceanic and Atmospheric  
2 Administration, in cooperation with the Administrator of  
3 the Environmental Protection Agency, shall issue air qual-  
4 ity forecasts and air quality warnings as part of the mis-  
5 sion of the Department of Commerce.

6 (b) REGIONAL WARNINGS.—In carrying out sub-  
7 section (a), the Secretary of Commerce shall establish  
8 within the National Oceanic and Atmospheric Administra-  
9 tion a program to provide region-oriented forecasts and  
10 warnings regarding air quality for each of the following  
11 regions of the United States:

12 (1) The Northeast, composed of Connecticut,  
13 Maine, Massachusetts, New Hampshire, New York,  
14 Rhode Island, and Vermont.

15 (2) The Mid-Atlantic, composed of Delaware,  
16 the District of Columbia, Maryland, New Jersey,  
17 Pennsylvania, Virginia, and West Virginia.

18 (3) The Southeast, composed of Alabama, Flor-  
19 ida, Georgia, North Carolina, and South Carolina.

20 (4) The South, composed of Arkansas, Lou-  
21 isiana, Mississippi, Oklahoma, Tennessee, and  
22 Texas.

23 (5) The Midwest, composed of Illinois, Indiana,  
24 Iowa, Kentucky, Michigan, Minnesota, Missouri,  
25 Ohio, and Wisconsin.

1           (6) The High Plains, composed of Kansas, Ne-  
2           braska, North Dakota, and South Dakota.

3           (7) The Northwest, composed of Idaho, Mon-  
4           tana, Oregon, Washington, and Wyoming.

5           (8) The Southwest, composed of Arizona, Cali-  
6           fornia, Colorado, New Mexico, Nevada, and Utah.

7           (9) Alaska.

8           (10) Hawaii.

9           (c) **PRIORITY AREA.**—In establishing the program  
10 described in subsection (a), the Secretary of Commerce  
11 and the Administrator shall identify and expand, to the  
12 maximum extent practicable, Federal air quality forecast  
13 and warning programs in effect as of the date of establish-  
14 ment of the program.

15          (d) **AUTHORIZATION OF APPROPRIATIONS.**—There  
16 are authorized to be appropriated such sums as are nec-  
17 essary to carry out this section.

18 **SEC. 106. RELATIONSHIP TO OTHER LAW.**

19          (a) **REGULATION OF HAZARDOUS AIR POLLUT-**  
20 **ANTS.**—Section 112(n)(1) of the Clean Air Act (42 U.S.C.  
21 7412(n)(1)) is amended by striking subparagraph (A) and  
22 inserting the following:

23                           “(A) **REGULATIONS.**—

24   “(i) **IN GENERAL.**—Not later than 18  
25   months after the date of enactment of the

1 Clean Air/Climate Change Act of 2007, the  
2 Administrator shall promulgate regulations  
3 under this section limiting the emission  
4 from electric utility steam generating units  
5 of hazardous air pollutants, other than  
6 mercury, as the Administrator determines  
7 to be appropriate and necessary in accord-  
8 ance with the standards under this section,  
9 including subsections (b)(2) and (f).

10 “(ii) REQUIREMENTS.—The regula-  
11 tions under clause (i) shall—

12 “(I) require compliance with ap-  
13 plicable standards as expeditiously as  
14 practicable, but not later than 3 years  
15 after the effective date of the regula-  
16 tions; and

17 “(II) be in accordance with other  
18 applicable requirements under this  
19 section.

20 “(iii) EFFECTIVE DATE.—The regula-  
21 tions under clause (i) shall be effective on  
22 the date of promulgation of the regula-  
23 tions.”.

1 (b) SAFE DRINKING WATER ACT.—Section 1412(b)  
2 of the Safe Drinking Water Act (42 U.S.C. 300g–1(b))  
3 is amended by adding at the end the following:

4 “(16) CARBON DIOXIDE.—Not later than 2  
5 years after the date of enactment of the Clean Air/  
6 Climate Change Act of 2007, the Administrator  
7 shall promulgate regulations establishing standards  
8 for underground injection of carbon dioxide in a  
9 manner that protects human health and the environ-  
10 ment.”.

11 (c) NO EFFECT ON OTHER FEDERAL AND STATE  
12 REQUIREMENTS.—Except as otherwise specifically pro-  
13 vided in this Act, nothing in this Act or an amendment  
14 made by this Act—

15 (1) affects any permitting, monitoring, or en-  
16 forcement obligation of the Administrator of the En-  
17 vironmental Protection Agency under the Clean Air  
18 Act (42 U.S.C. 7401 et seq.) or any remedy pro-  
19 vided under that Act;

20 (2) affects any requirement applicable to, or li-  
21 ability of, an electric generating unit under that Act;

22 (3) requires a change in, affects, or limits any  
23 State law that regulates electric utility rates or  
24 charges, including prudence review under State law;  
25 or

1           (4) precludes a State or political subdivision of  
2           a State from adopting and enforcing any require-  
3           ment for the control or abatement of air pollution,  
4           except that a State or political subdivision may not  
5           adopt or enforce any emission standard or limitation  
6           that is less stringent than the requirements imposed  
7           under that Act.

8           **TITLE II—GREENHOUSE GAS**  
9           **OFFSETS**

10 **SEC. 201. GREENHOUSE GAS OFFSETS.**

11           The Clean Air Act (42 U.S.C. 7401 et seq.) (as  
12           amended by section 101) is amended by adding at the end  
13           the following:

14           **“TITLE VIII—GREENHOUSE GAS**  
15           **OFFSETS**

                  “TITLE VIII—GREENHOUSE GAS OFFSETS

                  “Sec. 801. Definitions.

                  “Sec. 802. General requirements.

                  “Sec. 803. Standards for offset allowances.

16 **“SEC. 801. DEFINITIONS.**

17           “In this title:

18           “(1) ALLOWANCE.—The term ‘allowance’  
19           means—

20           “(A) a carbon dioxide allowance, as defined  
21           in section 701; and

22           “(B) an offset allowance.

23           “(2) ANAEROBIC DIGESTER.—

1           “(A) IN GENERAL.—The term ‘anaerobic  
2 digester’ means a device that promotes the de-  
3 composition of organic material to simple or-  
4 ganic and gaseous biogas products, usually by  
5 collecting the material under controlled tem-  
6 perature and volume.

7           “(B) INCLUSION.—The term ‘anaerobic di-  
8 gester’ includes a biogas recovery system.

9           “(3) ANAEROBIC STORAGE.—The term ‘anaer-  
10 obic storage’ means storage of organic material in  
11 an oxygen-free environment or under oxygen-free  
12 conditions, including by using holding tanks, ponds,  
13 or lagoons.

14           “(4) ANSI.—The term ‘ANSI’ means the  
15 American National Standards Institute.

16           “(5) ASHRAE.—The term ‘ASHRAE’ means  
17 the American Society of Heating, Refrigerating and  
18 Air Conditioning Engineers.

19           “(6) BIOGAS.—The term ‘biogas’ means a  
20 gas—

21           “(A) the principal components of which are  
22 methane and carbon dioxide; and

23           “(B) that results from the decomposition  
24 of organic matter under anaerobic conditions.

1           “(7) BOILER.—The term ‘boiler’ means a self-  
2           contained, low-pressure appliance for supplying heat  
3           in the form of steam or hot water to a residential  
4           building or commercial building.

5           “(8) COMMERCIAL BUILDING.—The term ‘com-  
6           mercial building’ means a building to which ANSI/  
7           ASHRAE/IESNA Standard 90.1 applies.

8           “(9) ELIGIBLE BIOMASS.—The term ‘eligible  
9           biomass’ includes sustainable harvested woody or  
10          herbaceous fuel sources that are available on a re-  
11          newable or recurring basis (excluding old-growth  
12          timber), as determined by the Administrator, includ-  
13          ing—

14                 “(A) dedicated energy crops and trees;

15                 “(B) agricultural food and feed crop resi-  
16          dues;

17                 “(C) aquatic plants;

18                 “(D) unadulterated wood and wood resi-  
19          dues;

20                 “(E) animal wastes;

21                 “(F) other clean organic wastes not mixed  
22          with other solid wastes;

23                 “(G) biogas; and

1           “(H) other neat liquid biofuels derived  
2           from any fuel source described in subpara-  
3           graphs (A) through (G).

4           “(10) ENERGY CONSERVATION MEASURE.—The  
5           term ‘energy conservation measure’ means an activ-  
6           ity the purpose of which is to increase the energy ef-  
7           ficiency of a building or to improve the management  
8           of energy demand, including through—

9           “(A) physical changes to equipment;

10           “(B) modifications to the building;

11           “(C) revisions of operating and mainte-  
12           nance procedures;

13           “(D) software changes; and

14           “(E) new methods of training or managing  
15           users of the building or operations and mainte-  
16           nance staff.

17           “(11) ENERGY PERFORMANCE.—The term ‘en-  
18           ergy performance’ means the relative energy effi-  
19           ciency of a building, building equipment, or building  
20           component, measured based on—

21           “(A) for a building, the quantity of energy  
22           required to provide building services; and

23           “(B) for building equipment and compo-  
24           nents, the impact of equipment or components  
25           on energy usage.

1           “(12) FORESTED CONDITION.—The term ‘for-  
2           ested condition’, with respect to land, means land—

3                   “(A) the area of which is at least 1 acre,  
4                   with strips of forest at least 120 feet wide,  
5                   measured stem-to-stem from the outer-most  
6                   edge, for a continuous length of at least 363  
7                   feet; and

8                   “(B)(i) at least 10 percent of the area of  
9                   which is stocked by trees of any size, or has  
10                  been at least 10-percent stocked by trees at any  
11                  time, and that is not subject to any nonforest-  
12                  related use that prevents normal tree regenera-  
13                  tion and succession, such as regular mowing,  
14                  intensive grazing, or recreation activities; or

15                  “(ii) for any western woodland species for  
16                  which the stocking described in clause (i) can-  
17                  not be determined, at least 5 percent of which  
18                  has a crown cover of trees of any size, or has  
19                  had at least 5-percent cover at any time, and  
20                  that is not subject to any nonforest-related use  
21                  that prevents normal tree regeneration and suc-  
22                  cession, such as regular mowing, intensive graz-  
23                  ing, or recreation activities.

24           “(13) FURNACE.—The term ‘furnace’ means a  
25           self-contained, indirect-fired appliance that—

1           “(A) supplies heated air to a residential  
2 building or commercial building through ducts  
3 to conditioned spaces; and

4           “(B) has a heat input rate of less than  
5 225,000 Btu per hour.

6           “(14) HVAC SYSTEM.—

7           “(A) IN GENERAL.—The term ‘HVAC sys-  
8 tem’ means any system or combination of sys-  
9 tems that provides, collectively or individually,  
10 heating, ventilation, or air conditioning to a  
11 building.

12           “(B) INCLUSIONS.—The term ‘HVAC sys-  
13 tem’ includes equipment, distribution networks,  
14 and terminals for a system described in sub-  
15 paragraph (A).

16           “(15) IESNA.—The term ‘IESNA’ means the  
17 Illuminating Engineering Society of North America.

18           “(16) MARKET PENETRATION RATE.—The term  
19 ‘market penetration rate’ means, as determined by  
20 the Administrator, the rate of diffusion of a tech-  
21 nology, product, or practice in a defined market, ex-  
22 pressed as—

23           “(A) a percentage of annual sales of the  
24 technology, product, or practice; or

1           “(B) a percentage of existing installed  
2 stock—

3           “(i) for a product or category of prod-  
4 ucts; or

5           “(ii) that uses a technology, product,  
6 or practice.

7           “(17) OFFSET ALLOWANCE.—The term ‘offset  
8 allowance’ means an allowance awarded under this  
9 title for—

10           “(A) each sequestration of, reduction in, or  
11 prevention of, 1 ton of carbon dioxide or carbon  
12 dioxide-equivalent emissions, as determined by  
13 the Administrator; or

14           “(B) an eligible emission credit retirement  
15 under section 802(a).

16           “(18) OFFSET PROJECT.—The term ‘offset  
17 project’ means a project that—

18           “(A) provides for a reduction in green-  
19 house gases or greenhouse gas emissions  
20 through—

21           “(i) the capture and destruction of  
22 methane from a landfill;

23           “(ii) a reduction in emissions of sulfur  
24 hexafluoride;



1           “(21) SF<sub>6</sub>-CONTAINING OPERATING EQUIP-  
2           MENT.—The term ‘SF<sub>6</sub>-containing operating equip-  
3           ment’ means any equipment that—

4                   “(A) is used for the transmission or dis-  
5                   tribution of electricity; and

6                   “(B) contains sulfur hexafluoride.

7           “(22) TOTAL SOLIDS.—The term ‘total solids’  
8           means the content of solid materials in a given sam-  
9           ple, including suspended solids, dissolved solids, and  
10          suspended volatile solids.

11          “(23) TRANSMISSION OR DISTRIBUTION ENTI-  
12          TY.—

13                   “(A) IN GENERAL.—The term ‘trans-  
14                   mission or distribution entity’ means an entity  
15                   that transmits or distributes electricity from an  
16                   electric generator to the electrical load of a cus-  
17                   tomer.

18                   “(B) INCLUSIONS.—The term ‘trans-  
19                   mission or distribution entity’ includes all re-  
20                   lated assets and equipment of an entity de-  
21                   scribed in subparagraph (A) that are located  
22                   within the service area of the entity, as defined  
23                   by the applicable State regulatory agency.

24          “(24) VERIFICATION.—The term ‘verification’  
25          means any activity conducted by a project sponsor to

1 ensure the adequacy and consistency of a component  
2 of an offset project, including monitoring and re-  
3 porting to the Administrator on any violation of this  
4 title.

5 “(25) UNFCCC.—The term ‘UNFCCC’ means  
6 the United Nations Framework Convention on Cli-  
7 mate Change, done at New York on May 9, 1992.

8 “(26) VOLATILE SOLIDS.—The term ‘volatile  
9 solids’ means the fraction of total solids of a given  
10 sample that is comprised primarily of organic mat-  
11 ter.

12 **“SEC. 802. GENERAL REQUIREMENTS.**

13 “(a) ELIGIBLE CARBON DIOXIDE EMISSION OFFSET  
14 PROJECTS AND ELIGIBLE EMISSION CREDIT RETIRE-  
15 MENTS.—Subject to subsection (c) and in accordance with  
16 the calculations and other requirements of section 803, the  
17 Administrator may award offset allowances to the sponsor  
18 of any offset project or eligible emission credit retirement  
19 if the sponsor has met all applicable requirements of this  
20 title.

21 “(b) PROJECT SPONSOR.—Any person may act as the  
22 sponsor of an offset project or eligible emission credit re-  
23 tirement if the person meets all the requirements estab-  
24 lished by the Administrator.

1           “(c) REQUIREMENTS FOR THE AWARD OF OFFSET  
2 ALLOWANCES.—Except as provided in section 803, with  
3 respect to the awarding of offset allowances under this sec-  
4 tion—

5           “(1) an offset allowance may not be awarded  
6 for an offset project that is required to be carried  
7 out pursuant to any Federal, State, or local law (in-  
8 cluding a regulation), other than this Act, or admin-  
9 istrative or judicial order;

10           “(2) offset allowances shall not be awarded to  
11 an offset project that includes an electric generation  
12 component; and

13           “(3) an offset allowance shall not be awarded to  
14 an offset project that is awarded credits or allow-  
15 ances under any other mandatory or voluntary  
16 greenhouse gas program, as determined by the Ad-  
17 ministrator.

18           “(d) OFFSET PROJECT AUDIT.—The sponsor of an  
19 offset project shall provide to the Administrator (or a des-  
20 ignee) access to the physical location at which the offset  
21 project is carried out to ensure compliance with this title.

22           “(e) INELIGIBILITY BECAUSE OF NONCOMPLI-  
23 ANCE.—If the Administrator determines that an offset  
24 project or sponsor of an offset project has not complied,

1 or is not in compliance, with this title, the Administrator  
2 may—

3 “(1) revoke and retire any offset allowances in  
4 the account of the sponsor of the offset project; and

5 “(2) revoke any other approvals issued by the  
6 Administrator with respect to the offset project.

7 “(f) REGULATIONS.—

8 “(1) IN GENERAL.—Not later than 2 years  
9 after the date of enactment of this title, the Admin-  
10 istrator shall promulgate regulations to carry out  
11 this title.

12 “(2) INTERACTION WITH DEPARTMENT OF AG-  
13 RICULTURE.—

14 “(A) IN GENERAL.—Except as provided in  
15 subparagraph (B), the Administrator shall pro-  
16 mulgate all regulations relating to greenhouse  
17 gas offsets under this title.

18 “(B) OFFSETS.—The Administrator, in  
19 consultation with the Secretary of Agriculture,  
20 shall promulgate regulations, in accordance  
21 with the requirements of this title, relating to  
22 greenhouse gas offsets produced by agricultural  
23 sequestration practices.

24 “(3) ADDITIONAL PROJECT TYPES.—In promul-  
25 gating regulations pursuant to this subsection, the

1 Administrator shall establish requirements, in ac-  
2 cordance with the requirements of this title, relating  
3 to types of greenhouse gas offset projects not other-  
4 wise addressed under this title.

5 **“SEC. 803. STANDARDS FOR OFFSET ALLOWANCES.**

6 “(a) LANDFILL METHANE CAPTURE AND DESTRUC-  
7 TION OFFSET PROJECTS.—

8 “(1) IN GENERAL.—An offset project for the  
9 capture and destruction of methane shall be eligible  
10 to receive allowances under this title if the offset  
11 project—

12 “(A) captures and destroys methane from  
13 a landfill that is not subject to—

14 “(i) the regulations entitled ‘Stand-  
15 ards of Performance for New Stationary  
16 Sources; Municipal Solid Waste Landfills’  
17 under subpart www of part 60 of title 40,  
18 Code of Federal Regulations (or successor  
19 regulations); or

20 “(ii) any other relevant Federal regu-  
21 lations, including emissions guidelines for  
22 municipal solid waste landfills under—

23 “(I) subpart cc of part 60 of that  
24 title; or

1 “(II) subpart aaaa of part 63 of  
2 that title; and

3 “(B) meets the requirements of this sub-  
4 section.

5 “(2) REQUIREMENT.—To be eligible to receive  
6 an allowance under this subsection, an offset project  
7 described in paragraph (1) shall use a landfill gas  
8 collection system that provides for continuous meter-  
9 ing and data computation of—

10 “(A) the landfill gas volumetric flow rate;  
11 and

12 “(B) methane concentration.

13 “(3) EMISSIONS CALCULATIONS.—

14 “(A) EMISSIONS BASELINE.—

15 “(i) IN GENERAL.—The emissions  
16 baseline of an offset project that receives  
17 allowances under this subsection shall be  
18 the potential fugitive landfill emissions of  
19 methane (measured in tons of carbon diox-  
20 ide equivalent), as calculated based on the  
21 quantity of methane collected and metered  
22 for thermal destruction as part of the off-  
23 set project in accordance with the following  
24 formula: Emissions (tons of carbon dioxide

1 equivalent) =  $(V \times M \times (1-OX) \times GWP)/$   
2 2000.

3 “(ii) ABBREVIATIONS.—In the for-  
4 mula contained in clause (i)—

5 “(I) ‘V’ represents the volume of  
6 methane collected (expressed in cubic  
7 feet);

8 “(II) ‘M’ represents the mass of  
9 methane per cubic foot (with a default  
10 value of 0.04246 pounds per cubic  
11 foot at 1 atmosphere and 20° C);

12 “(III) ‘OX’ represents the oxida-  
13 tion factor, which is the estimated  
14 portion of collected methane that  
15 would have oxidized to carbon dioxide  
16 if not collected (with a default value  
17 of 0.10); and

18 “(IV) ‘GWP’ represents the car-  
19 bon dioxide-equivalent global warming  
20 potential of methane (with a default  
21 value of 23).

22 “(B) EMISSIONS REDUCTIONS.—

23 “(i) IN GENERAL.—The emissions re-  
24 ductions of an offset project under this  
25 subsection shall be the potential fugitive

1 landfill emissions of methane (measured in  
2 tons of carbon dioxide equivalent) that  
3 would have occurred if metered methane  
4 collected from the landfill for thermal de-  
5 struction as part of the offset project was  
6 not collected and destroyed, as calculated  
7 in accordance with the following formula:  
8 Emissions reductions (tons of carbon diox-  
9 ide equivalent) =  $(V \times M \times (1-OX) \times C_{ef}$   
10  $\times GWP)/2000$ .

11 “(ii) ABBREVIATIONS.—In the for-  
12 mula contained in clause (i)—

13 “(I) ‘V’ represents the volume of  
14 methane collected (expressed in cubic  
15 feet);

16 “(II) ‘M’ represents the mass of  
17 methane per cubic foot (with a default  
18 value of 0.04246 pounds per cubic  
19 foot at 1 atmosphere and 20° C);

20 “(III) ‘OX’ represents the oxida-  
21 tion factor, which is the estimated  
22 portion of collected methane that  
23 would have oxidized to carbon dioxide  
24 if not collected (with a default value  
25 of 0.10);

1                   “(IV) ‘C<sub>ef</sub>’ represents the com-  
2                   bustion efficiency of methane control  
3                   technology (with a default value of  
4                   0.98); and

5                   “(V) ‘GWP’ represents the car-  
6                   bon dioxide-equivalent global warming  
7                   potential of methane (with a default  
8                   value of 23).

9                   “(4) MONITORING AND VERIFICATION.—Not  
10                  less frequently than once each year, the sponsor of  
11                  an offset project that receives an allowance under  
12                  this subsection shall submit to the Administrator a  
13                  monitoring and verification report, including—

14                         “(A) data relating to monthly volumetric  
15                         flow rate and methane concentration of the off-  
16                         set project, including documentation that the  
17                         methane was actually supplied to an applicable  
18                         combustion source; and

19                         “(B) verification of landfill gas methane  
20                         composition through landfill gas sampling and  
21                         independent laboratory analysis using applicable  
22                         laboratory test methods of the Environmental  
23                         Protection Agency.

24                   “(b) SULFUR HEXAFLUORIDE OFFSET PROJECTS.—

1           “(1) IN GENERAL.—An offset project to pre-  
2 vent, through capture and storage, recycling, or de-  
3 struction, the emission into the atmosphere of sulfur  
4 hexafluoride from equipment in the electricity trans-  
5 mission and distribution sector shall be eligible to re-  
6 ceive allowances under this title.

7           “(2) REQUIREMENTS.—

8           “(A) IN GENERAL.—To be eligible to re-  
9 ceive an allowance under this subsection, an off-  
10 set project described in paragraph (1) shall in-  
11 clude incremental action beyond action taken  
12 with respect to the offset project during the cal-  
13 endar year preceding the year in which an ap-  
14 plication is submitted (referred to in this sub-  
15 section as the ‘baseline year’) to achieve a re-  
16 duction in sulfur hexafluoride emissions, in ac-  
17 cordance with the guidance under—

18           “(i) the International Electrotechnical  
19 Commission document numbered 1634 and  
20 entitled ‘High-voltage switchgear and con-  
21 trol gear—Use and handling of sulfur  
22 hexafluoride (SF<sub>6</sub>) in high-voltage  
23 switchgear and control gear’ (CEI/IEC  
24 1634, 1995–04); and

1           “(ii) the Electric Power Research In-  
2           stitute document entitled ‘Practical Guide  
3           to SF<sub>6</sub> Handling Practices’ (TR-113933,  
4           2002).

5           “(B) ENTITY-WIDE EMISSIONS RATES.—

6           “(i) CALCULATION.—

7                   “(I) IN GENERAL.—The entity-  
8           wide sulfur hexafluoride emissions  
9           rate of an offset project, measured as  
10          a percentage, shall be calculated in ac-  
11          cordance with the following formula:  
12          SF<sub>6</sub> emissions rate (%) = (total SF<sub>6</sub>  
13          emissions for reporting year)/ (total  
14          SF<sub>6</sub> nameplate capacity at end of re-  
15          porting year).

16                   “(II) DESCRIPTION.—In the for-  
17          mula contained in subclause (I), ‘SF<sub>6</sub>  
18          nameplate capacity’ means the capac-  
19          ity of all SF<sub>6</sub>-containing operating  
20          equipment owned or operated as part  
21          of the offset project, measured at the  
22          full and proper SF<sub>6</sub>-charge of that  
23          equipment, rather than the actual  
24          charge of the equipment, which may  
25          reflect leakage.

1 “(ii) REQUIREMENT.—

2 “(I) IN GENERAL.—Subject to  
 3 subclauses (II) and (III) and except  
 4 as provided in clause (iii), to be eligi-  
 5 ble to receive allowances under this  
 6 subsection, the entity-wide emissions  
 7 rate for the baseline year of an offset  
 8 project shall be lower than the appli-  
 9 cable emissions rate contained in the  
 10 following table:

“Emissions Rates by Region

A .....	9.68%
B .....	5.22%
C .....	9.68%
D .....	5.77%
E .....	3.65%
National .....	9.68%

11 “(II) ADJUSTMENT.—

12 “(aa) FINDING.—Congress  
 13 finds that the emissions rates  
 14 contained in the table under sub-  
 15 clause (I) are based on weighted  
 16 average emissions rates for cal-  
 17 endar year 2004 for the Environ-  
 18 mental Protection Agency sulfur  
 19 hexafluoride partnership utilities  
 20 in each region.

1                   “(bb) DETERMINATION.—If  
2                   the Administrator determines  
3                   that an emissions rate contained  
4                   in the table under subclause (I)  
5                   for any region is in error and is  
6                   higher than the national weighted  
7                   average emissions rate, the na-  
8                   tional emissions rate contained in  
9                   that table shall apply with re-  
10                  spect to the region.

11                  “(III) REGION DESCRIPTIONS.—  
12                  For purposes of the table under in  
13                  subclause (I)—

14                   “(aa) Region A is comprised  
15                   of the States of Connecticut,  
16                   Delaware, Maine, Massachusetts,  
17                   New Jersey, New York, New  
18                   Hampshire, Pennsylvania, Rhode  
19                   Island, and Vermont;

20                   “(bb) Region B is comprised  
21                   of the States of Alabama, Flor-  
22                   ida, Georgia, Kentucky, Mary-  
23                   land, Mississippi, North Carolina,  
24                   South Carolina, Tennessee, Vir-

1                   ginia, and West Virginia, and the  
2                   District of Columbia;

3                   “(cc) Region C is comprised  
4                   of the States of Colorado, Illi-  
5                   nois, Indiana, Michigan, Min-  
6                   nesota, Montana, North Dakota,  
7                   Ohio, South Dakota, Utah, Wis-  
8                   consin, and Wyoming;

9                   “(dd) Region D is comprised  
10                  of the States of Arkansas, Iowa,  
11                  Kansas, Louisiana, Missouri, Ne-  
12                  braska, New Mexico, Oklahoma,  
13                  and Texas; and

14                  “(ee) Region E is comprised  
15                  of the States of Alaska, Arizona,  
16                  California, Hawaii, Idaho, Ne-  
17                  vada, Oregon, and Washington.

18                  “(iii) EXCEPTION.—Notwithstanding  
19                  clause (ii), an offset project shall be eligi-  
20                  ble to receive allowances under this sub-  
21                  section regardless of the entity-wide emis-  
22                  sions rate for the baseline year of the off-  
23                  set project if the sponsor of the offset  
24                  project demonstrates to the satisfaction of

1 the Administrator that each of the fol-  
2 lowing conditions is met:

3 “(I) The offset project is being  
4 carried out at a transmission or dis-  
5 tribution entity the service area of  
6 which is predominantly urban.

7 “(II) The optimal management of  
8 sulfur hexafluoride is prevented by at  
9 least 2 of the following factors:

10 “(aa) The transmission or  
11 distribution entity for which the  
12 offset project is being carried out  
13 is comprised of older-than-aver-  
14 age installed transmission or dis-  
15 tribution equipment compared to  
16 the national average age of the  
17 equipment.

18 “(bb) A majority of the elec-  
19 tricity load of the transmission or  
20 distribution entity for which the  
21 offset project is being carried out  
22 is served by equipment that is lo-  
23 cated underground, precluding  
24 management of sulfur

1 hexafluoride emissions through  
2 regular ongoing maintenance.

3 “(cc) The transmission or  
4 distribution entity for which the  
5 offset project is being carried out  
6 is unable to remove a substantial  
7 portion of equipment from service  
8 because doing so would impair  
9 system reliability.

10 “(dd) The required equip-  
11 ment purpose or design for a  
12 substantial portion of the equip-  
13 ment of the transmission or dis-  
14 tribution entity for which the off-  
15 set project is being carried out  
16 results in inherently leak-prone  
17 equipment.

18 “(3) EMISSIONS CALCULATIONS.—

19 “(A) IN GENERAL.—To be eligible to re-  
20 ceive allowances under this subsection, the  
21 sponsor of an offset project shall submit to the  
22 Administrator an annual report describing the  
23 sulfur hexafluoride emissions of the offset  
24 project (including such supporting documenta-  
25 tion as the Administrator determines to be ap-

1           appropriate), calculated in accordance with this  
2           paragraph.

3           “(B) DETERMINATION OF BASELINE EMIS-  
4           SIONS.—

5                   “(i) IN GENERAL.—The baseline sul-  
6                   fur hexafluoride emissions of an offset  
7                   project that receives an allowance under  
8                   this subsection shall be determined based  
9                   on the sulfur hexafluoride emissions emit-  
10                  ted by the transmission or distribution en-  
11                  tity for the baseline year of the offset  
12                  project.

13                   “(ii) LIMITATION.—The baseline year  
14                   for an offset project an application of  
15                   which is submitted before January 1,  
16                   2009, shall be not earlier than 2005.

17                   “(iii) MONITORING.—The sponsor of  
18                   an offset project that receives an allowance  
19                   under this subsection shall systematically  
20                   track and account for all uses of sulfur  
21                   hexafluoride by the transmission or dis-  
22                   tribution entity for which the offset project  
23                   is being carried out to determine entity-  
24                   wide emissions of sulfur hexafluoride, in-  
25                   cluding monitoring all electric transmission

1 and distribution assets and all SF<sub>6</sub>-con-  
2 taining operating equipment owned or op-  
3 erated by the transmission or distribution  
4 entity.

5 “(C) MASS BALANCE METHOD.—

6 “(i) IN GENERAL.—For purposes of  
7 this paragraph, the sulfur hexafluoride  
8 emissions of an offset project for a cal-  
9 endar year shall be determined based on  
10 the following mass balance formula: SF<sub>6</sub>  
11 emissions (lbs) = (SF<sub>6</sub> change in inven-  
12 tory) + (SF<sub>6</sub> purchases and acquisitions)  
13 – (SF<sub>6</sub> sales and disbursements) – (change  
14 in total SF<sub>6</sub> nameplate capacity of equip-  
15 ment).

16 “(ii) DESCRIPTION.—In the formula  
17 contained in clause (i)—

18 “(I) ‘SF<sub>6</sub> change in inventory’  
19 means the difference between, with re-  
20 spect to the applicable offset project—

21 “(aa) the quantity of sulfur  
22 hexafluoride gas in storage (in-  
23 cluding gas held in cylinders and  
24 gas carts, but not including gas  
25 held in SF<sub>6</sub>-containing operating

1 equipment) on January 1 of the  
2 applicable calendar year; and

3 “(bb) the quantity of sulfur  
4 hexafluoride gas in storage on  
5 December 31 of the applicable  
6 calendar year;

7 “(II) ‘SF<sub>6</sub> purchases and acquisi-  
8 tions’ means the total quantity of sul-  
9 fur hexafluoride gas acquired from  
10 other entities during the applicable  
11 calendar year, as contained in storage  
12 containers or SF<sub>6</sub>-containing oper-  
13 ating equipment;

14 “(III) ‘SF<sub>6</sub> sales and disburse-  
15 ments’ means the total quantity of  
16 sulfur hexafluoride gas sold or other-  
17 wise distributed to other entities dur-  
18 ing the applicable calendar year, as  
19 contained in storage containers or  
20 SF<sub>6</sub>-containing operating equipment;  
21 and

22 “(IV) ‘change in total SF<sub>6</sub> name-  
23 plate capacity of equipment’ (meas-  
24 ured at the full and proper SF<sub>6</sub>-  
25 charge of that equipment, rather than

1 the actual charge of the equipment,  
2 which may reflect leakage), means the  
3 net change in the total volume of SF<sub>6</sub>-  
4 containing operating equipment dur-  
5 ing the applicable calendar year, equal  
6 to the difference between—

7 “(aa) the total volume of  
8 SF<sub>6</sub>-containing operating equip-  
9 ment obtained during the appli-  
10 cable calendar year; and

11 “(bb) the total volume of  
12 SF<sub>6</sub>-containing operating equip-  
13 ment retired during the applica-  
14 ble calendar year.

15 “(D) EMISSIONS.—

16 “(i) IN GENERAL.—The sulfur  
17 hexafluoride emissions of an offset project  
18 for a calendar year shall be calculated in  
19 accordance with the following formula:  
20 Emissions (tons of carbon dioxide equiva-  
21 lent) = [(V<sub>iby</sub> - V<sub>iey</sub>) + (PA<sub>psd</sub> + PA<sub>e</sub> +  
22 PA<sub>rre</sub>) - (SD<sub>op</sub> + SD<sub>rs</sub> + SD<sub>df</sub> + SD<sub>sor</sub>)  
23 - (CNP<sub>ne</sub> - CNP<sub>rse</sub>)] × GWP/2000.

24 “(ii) DESCRIPTION.—In the formula  
25 contained in clause (i), in which each sul-

1 fur hexafluoride value shall be expressed in  
2 pounds—

3 “(I) ‘ $V_{iby}$ ’ represents the sulfur  
4 hexafluoride inventory of the offset  
5 project in cylinders, gas carts, and  
6 other storage containers (not includ-  
7 ing SF<sub>6</sub>-containing operating equip-  
8 ment) on January 1 of the applicable  
9 calendar year;

10 “(II) ‘ $V_{iey}$ ’ represents the sulfur  
11 hexafluoride inventory of the offset  
12 project in cylinders, gas carts, and  
13 other storage containers (not includ-  
14 ing SF<sub>6</sub>-containing operating equip-  
15 ment) on December 31 of the applica-  
16 ble calendar year;

17 “(III) ‘ $PA_{psd}$ ’ represents the  
18 quantity of sulfur hexafluoride pur-  
19 chased from suppliers and distributors  
20 in cylinders for the offset project dur-  
21 ing the applicable calendar year;

22 “(IV) ‘ $PA_e$ ’ represents the quan-  
23 tity of sulfur hexafluoride provided by  
24 equipment manufacturers in SF<sub>6</sub>-con-

1           taining operating equipment during  
2           the applicable calendar year;

3           “(V) ‘PA<sub>rre</sub>’ represents the quan-  
4           tity of sulfur hexafluoride returned to  
5           the offset project entity after off-site  
6           recycling during the applicable cal-  
7           endar year;

8           “(VI) ‘SD<sub>op</sub>’ represents sales of  
9           sulfur hexafluoride by the offset  
10          project to other entities during the ap-  
11          plicable calendar year, including  
12          through sulfur hexafluoride gas re-  
13          maining in SF<sub>6</sub>-containing operating  
14          equipment sold by the offset project;

15          “(VII) ‘SD<sub>rs</sub>’ represents the  
16          quantity of sulfur hexafluoride re-  
17          turned by the offset project to the  
18          supplier during the applicable cal-  
19          endar year;

20          “(VIII) ‘SD<sub>df</sub>’ represents the  
21          quantity of sulfur hexafluoride sent by  
22          the offset project to destruction facili-  
23          ties during the applicable calendar  
24          year;

1           “(IX) ‘SD<sub>sor</sub>’ represents the  
2           quantity of sulfur hexafluoride sent  
3           off-site for recycling by the offset  
4           project during the applicable calendar  
5           year;

6           “(X) ‘CNP<sub>ne</sub>’ represents the total  
7           sulfur hexafluoride nameplate capacity  
8           (measured at full and proper charge)  
9           of SF<sub>6</sub>-containing operating equip-  
10          ment of the offset project acquired  
11          during the applicable calendar year;

12          “(XI) ‘CNP<sub>rse</sub>’ represents the  
13          total sulfur hexafluoride nameplate  
14          capacity (measured at full and proper  
15          charge) of SF<sub>6</sub>-containing operating  
16          equipment retired or sold by the offset  
17          project during the applicable calendar  
18          year; and

19          “(XII) ‘GWP’ represents the car-  
20          bon dioxide equivalent global warming  
21          potential of sulfur hexafluoride (the  
22          default value of which is 22,200).

23          “(E) EMISSIONS REDUCTIONS.—

24                 “(i) IN GENERAL.—The emissions re-  
25                 duction of an offset project for a calendar

1 year shall be determined in accordance  
2 with the following formula: Emissions re-  
3 duction (tons of carbon dioxide equivalent)  
4 = (total pounds of SF<sub>6</sub> emissions in base-  
5 line year) – (total pounds of SF<sub>6</sub> emissions  
6 in reporting year) × GWP/2000.

7 “(ii) DESCRIPTION.—For purposes of  
8 the formula contained in clause (i)—

9 “(I) each value shall be deter-  
10 mined in accordance with the calcula-  
11 tions described in this paragraph; and

12 “(II) ‘GWP’ represents the car-  
13 bon dioxide equivalent global warming  
14 potential of sulfur hexafluoride (the  
15 default value of which is 22,200).

16 “(4) MONITORING AND VERIFICATION.—

17 “(A) IN GENERAL.—Not less frequently  
18 than once each year, the sponsor of an offset  
19 project that receives an allowance under this  
20 subsection shall submit to the Administrator a  
21 monitoring and verification report that in-  
22 cludes—

23 “(i) the information and documenta-  
24 tion described in paragraph (3)(A);

1                   “(ii) an identification of each facility  
2 managed by the transmission or distribu-  
3 tion entity for which the offset project is  
4 being carried out from which sulfur  
5 hexafluoride gas is acquired or disbursed,  
6 including—

7                   “(I) a log of each such acquisi-  
8 tion or dispersal describing—

9                   “(aa) the weight of each cyl-  
10 inder transported before ship-  
11 ment from the facility; and

12                   “(bb) the weight of each cyl-  
13 inder after return to the facility;  
14 and

15                   “(II) a cylinder-specific log (in-  
16 cluding the location, weight, and spe-  
17 cific identifying information of any  
18 applicable equipment) for each cyl-  
19 inder used at the facility—

20                   “(aa) to fill equipment with  
21 sulfur hexafluoride; or

22                   “(bb) to reclaim sulfur  
23 hexafluoride from equipment; and

24                   “(iii) an inventory of all SF<sub>6</sub>-con-  
25 taining operating equipment and all other

1 sulfur hexafluoride-related items (including  
2 cylinders, gas carts, and other storage con-  
3 tainers) used by the transmission or dis-  
4 tribution entity for which the offset project  
5 is being carried out.

6 “(B) RETURN OF LOGS.—The project  
7 sponsor shall submit to the facility in control of  
8 each applicable cylinder a copy of each log de-  
9 scribed in subparagraph (A)(ii)(II) relating to  
10 the cylinder by not later than the earlier of—

11 “(i) the date on which the sponsor  
12 completes use of the cylinder; and

13 “(ii) the date on which the cylinder is  
14 empty.

15 “(c) SEQUESTRATION OF CARBON DUE TO  
16 AFFORESTATION OR REFORESTATION.—

17 “(1) IN GENERAL.—An offset project that se-  
18 questers carbon through the conversion of nonfor-  
19 ested land to a forested condition may receive allow-  
20 ances under this title if—

21 “(A) the offset project occurs on land that  
22 has been in a nonforested state for at least 10  
23 years immediately preceding the date of imple-  
24 mentation of the offset project;

1           “(B) the offset project is, as determined by  
2           the Administrator—

3                   “(i) not common practice in the geo-  
4                   graphic area in which the offset project  
5                   will occur;

6                   “(ii) managed in accordance with  
7                   widely-accepted environmentally sustain-  
8                   able forestry practices; and

9                   “(iii) designed to promote restoration  
10                  of native forests by using mainly native  
11                  species and avoiding the introduction of  
12                  invasive nonnative species; and

13                  “(iv) before any commercial timber  
14                  harvest-related activity occurs pursuant to  
15                  the offset project, an appropriate certifi-  
16                  cation is obtained by the sponsor of the  
17                  offset project through—

18                           “(I) the Forest Stewardship  
19                           Council;

20                           “(II) the Sustainable Forestry  
21                           Institute;

22                           “(III) the American Tree Farm  
23                           System; or

1                   “(IV) such other similar organi-  
2                   zation as the Administrator deter-  
3                   mines to be appropriate.

4                   “(2) CARBON SEQUESTRATION BASELINE.—

5                   “(A) IN GENERAL.—To be eligible to re-  
6                   ceive allowances under this subsection, the  
7                   sponsor of an offset project shall determine,  
8                   using data from the 1-year period ending on the  
9                   date on which the offset project begins oper-  
10                  ation, the carbon content of certain carbon  
11                  pools in accordance with this paragraph.

12                  “(B) CARBON POOLS.—

13                  “(i) MANDATORY.—As a condition of  
14                  receiving allowances under this subsection,  
15                  the sponsor of an offset project shall deter-  
16                  mine the carbon content of the following  
17                  carbon pools:

18                         “(I) Live above-ground tree bio-  
19                         mass.

20                         “(II) Live below-ground tree bio-  
21                         mass.

22                         “(III) Soil carbon.

23                         “(IV)(aa) Except as provided in  
24                         item (bb), dead organic matter and  
25                         coarse woody debris.



1 tions that form relatively homogenous  
2 units.

3 “(II) FACTORS FOR CONSIDER-  
4 ATION.—In dividing land of the offset  
5 project under subclause (I), the spon-  
6 sor shall take into consideration—

7 “(aa) vegetation and tree  
8 species (including existing vegeta-  
9 tion and trees and vegetation and  
10 trees to be used as part of the  
11 offset project); and

12 “(bb) site-specific factors,  
13 such as soil type, elevation, slope,  
14 and age class.

15 “(iv) SUBPOPULATION CALCULA-  
16 TION.—

17 “(I) IN GENERAL.—The carbon  
18 content of each subpopulation of a  
19 carbon pool under this subparagraph  
20 shall be calculated in accordance with  
21 the following formula: carbon dioxide  
22 (tons) =  $[(A \times C/\text{ha})(44/12)] /$   
23 0.9072.

24 “(II) DESCRIPTION.—In the for-  
25 mula contained in subclause (I)—

1                   “(aa) ‘A’ represents the area  
2                   in hectares of the applicable sub-  
3                   population; and

4                   “(bb) ‘C/ha’ represents the  
5                   average carbon content per hec-  
6                   tare of each carbon pool.

7                   “(v) CARBON POOL CALCULATIONS.—

8                   “(I) IN GENERAL.—The carbon  
9                   content of each carbon pool shall be  
10                  calculated using a measurement pro-  
11                  tocol and sample size that achieves  
12                  demonstrated, quantified accuracy for  
13                  the combined carbon pool calculation  
14                  under subparagraph (C), such that  
15                  the Administrator is 95-percent con-  
16                  fident that the calculated value is  
17                  within 10 percent of the true mean.

18                  “(II) REQUIREMENTS.—Measure-  
19                  ment and sampling practices under  
20                  this subparagraph shall meet the fol-  
21                  lowing requirements:

22                  “(aa) Adequate sample size  
23                  that meets each applicable re-  
24                  quirement with respect to each  
25                  applicable subpopulation.

1 “(bb) Minimum required  
2 number of sampling plots for  
3 each subpopulation, as deter-  
4 mined in accordance with the for-  
5 mula contained in subclause  
6 (III).

7 “(III) FORMULA.—

8 “(aa) IN GENERAL.—The  
9 formula referred to in subclause  
10 (II)(bb) is the following:  $n = (s$   
11  $\times 1.960)/(\text{mean} \times \text{re})^2$ .

12 “(bb) DESCRIPTION.—In the  
13 formula contained in item (aa)—

14 “(AA) ‘n’ represents  
15 the required number of sam-  
16 ple plots for each applicable  
17 subpopulation;

18 “(BB) ‘s’ represents  
19 the standard deviation;

20 “(CC) ‘mean’ rep-  
21 represents the average carbon  
22 content calculated for the  
23 sample population; and

24 “(DD) ‘re’ represents  
25 the level of sampling error

1 (with a default value of  
2 0.08) to ensure a total max-  
3 imum error of not more  
4 than 10 percent, assuming a  
5 total error due to measure-  
6 ment error of 0.02.

7 “(C) TOTAL CARBON CONTENT CALCULA-  
8 TION.—

9 “(i) IN GENERAL.—The carbon con-  
10 tent of all carbon pools within the jurisdic-  
11 tion of an offset project shall be deter-  
12 mined, based on the values calculated  
13 under subparagraph (B)(iv), in accordance  
14 with the following formula:  $TC_{pb} = TC_{latb}$   
15  $+ TC_{lbtb} + TC_s$  [ $+ TC_{lantb} + TC_{doff} +$   
16  $TC_{docwd}$ ].

17 “(ii) DESCRIPTION.—In the formula  
18 contained in clause (i)—

19 “(I) ‘ $TC_{pb}$ ’ represents the total  
20 carbon content of all carbon pools  
21 within the jurisdiction of an offset  
22 project;

23 “(II) ‘ $TC_{latb}$ ’ represents the total  
24 carbon content of live above-ground

1 tree biomass in all applicable sub-  
2 populations;

3 “(III) ‘TC<sub>lbtb</sub>’ represents the  
4 total carbon content of live below-  
5 ground tree biomass in all applicable  
6 subpopulations;

7 “(IV) ‘TC<sub>s</sub>’ represents the total  
8 carbon content of soil carbon in all  
9 applicable subpopulations;

10 “(V) ‘TC<sub>lantb</sub>’ represents the total  
11 carbon content of live above-ground  
12 non-tree biomass in all applicable sub-  
13 populations;

14 “(VI) ‘TC<sub>doff</sub>’ represents the  
15 total carbon content of dead organic  
16 matter and forest floor in all applica-  
17 ble subpopulations; and

18 “(VII) ‘TC<sub>docwd</sub>’ represents the  
19 total carbon content of dead organic  
20 matter and coarse woody debris in all  
21 applicable subpopulations.

22 “(D) REQUIREMENT.—Calculations under  
23 this paragraph shall be in accordance with ap-  
24 plicable forestry best practices and guidance  
25 contained in section 3 of part 1 of chapter 1 of

1 the technical guidelines for the voluntary re-  
2 porting of greenhouse gases program of the De-  
3 partment of Energy, dated March 2006 (or suc-  
4 cessor guidelines).

5 “(3) CALCULATING SEQUESTRATION ALLOW-  
6 ANCES.—

7 “(A) IN GENERAL.—For any year, the Ad-  
8 ministrator shall allocate allowances under this  
9 subsection based on the quantity of carbon se-  
10 questered as a result of the applicable offset  
11 project, based on the difference between, ex-  
12 pressed as tons of carbon dioxide—

13 “(i) the aggregate carbon uptake and  
14 carbon emissions of the carbon pools of the  
15 offset project during the applicable year;  
16 and

17 “(ii) the carbon content of the carbon  
18 pools of the offset project for the preceding  
19 year or the baseline year, as appropriate.

20 “(B) FORMULA.—

21 “(i) IN GENERAL.—For purposes of  
22 allocating allowances under this subsection,  
23 the quantity of carbon sequestered shall be  
24 calculated using a stock-change approach,

1 in accordance with the following formula:

2 
$$\text{NCS}_t = \text{I}_t - \text{I}_{t-1}.$$

3 “(ii) DESCRIPTION.—In the formula  
4 contained in clause (i)—

5 “(I) ‘NCS<sub>t</sub>’ represents the net  
6 carbon sequestered during reporting  
7 period *t*;

8 “(II) ‘I<sub>t</sub>’ represents the inventory  
9 of carbon stock for all carbon pools in  
10 all applicable subpopulations within  
11 the jurisdiction of the offset project  
12 during reporting period *t*; and

13 “(III) ‘I<sub>t-1</sub>’ represents the inven-  
14 tory of carbon stock for all carbon  
15 pools in all applicable subpopulations  
16 within the jurisdiction of the offset  
17 project during the reporting period  
18 immediately preceding reporting pe-  
19 riod *t*.

20 “(C) REQUIREMENTS.—

21 “(i) REMEASUREMENT.—Except as  
22 provided in paragraph (2)(B)(i)(IV)(bb),  
23 the carbon content of each carbon pool cal-  
24 culated under paragraph (2) shall be re-  
25 measured for each year during which the

1 applicable offset project receives an allow-  
2 ance under this subsection, with equal or  
3 greater precision, in accordance with that  
4 paragraph.

5 “(ii) DETERMINATION OF CARBON  
6 STOCK.—Each calculation of the carbon  
7 stock of a subpopulation of a carbon pool  
8 under this paragraph shall be made in ac-  
9 cordance with paragraph (2).

10 “(iii) POTENTIAL LOSSES.—

11 “(I) IN GENERAL.—Subject to  
12 subclause (II), the sponsor of an off-  
13 set project shall decrease the net value  
14 of change in carbon stock calculated  
15 in accordance with this paragraph by  
16 not more than 10 percent of the value  
17 to account for potential losses of se-  
18 questered carbon in any carbon pool  
19 of the offset project.

20 “(II) INSURANCE.—The require-  
21 ment under subclause (I) shall not  
22 apply to any offset project that ob-  
23 tains long-term insurance approved by  
24 the Administrator to guarantee re-  
25 placement of any lost sequestered car-

1                   bon for which an allowance is issued  
2                   under this subsection.

3                   “(4) MONITORING AND VERIFICATION.—Not  
4                   less frequently than once every 5 years, the sponsor  
5                   of an offset project that receives allowances under  
6                   this subsection shall submit to the Administrator a  
7                   monitoring and verification report, including—

8                   “(A) a calculation of total carbon stock  
9                   within the jurisdiction of the offset project; and

10                   “(B) data from the direct measurement of  
11                   carbon content for each carbon pool used to de-  
12                   termine the baseline and reporting period car-  
13                   bon content of the offset project.

14                   “(5) CARBON SEQUESTRATION PERMANENCE.—

15                   “(A) IN GENERAL.—To address the per-  
16                   manence of sequestered carbon, the sponsor of  
17                   each offset project that receives an allowance  
18                   under this subsection shall place land within the  
19                   jurisdiction of the offset project under a legally-  
20                   binding permanent conservation easement, ap-  
21                   proved by the Administrator, that requires the  
22                   land to be maintained in a forested condition in  
23                   perpetuity.

1           “(B) REQUIREMENTS.—A conservation  
2 easement under subparagraph (A) shall include  
3 a requirement that—

4           “(i) the carbon density within the ju-  
5 risdiction of the offset project shall be  
6 maintained at long-term levels; and

7           “(ii) land within the jurisdiction of  
8 the offset project shall be managed in ac-  
9 cordance with environmentally sustainable  
10 forestry practices.

11       “(d) REDUCTION AND AVOIDANCE OF CARBON DIOX-  
12 IDE EMISSIONS FROM NATURAL GAS, OIL, AND PROPANE  
13 END-USE COMBUSTION DUE TO END-USE ENERGY EFFI-  
14 CIENCY.—

15       “(1) DEFINITIONS.—In this subsection:

16       “(A) BUILDING ENVELOPE.—The term  
17 ‘building envelope’ means the elements of a  
18 building that separate conditioned space from  
19 unconditioned space, or that enclose semiheated  
20 space, through which thermal energy may be  
21 transferred to or from the exterior,  
22 unconditioned space, or conditioned space, in-  
23 cluding any element that separates the interior  
24 of a building from the outdoor environment

1 (such as walls, windows, foundation, basement  
2 slab, ceiling, roof, and insulation).

3 “(B) PASSIVE SOLAR.—The term ‘passive  
4 solar’, with respect to a building, means a com-  
5 bination of building design features and build-  
6 ing components that use solar energy to reduce  
7 or eliminate the need for—

8 “(i) mechanical heating and cooling;  
9 and

10 “(ii) daytime artificial lighting.

11 “(C) WHOLE-BUILDING RETROFIT.—The  
12 term ‘whole-building retrofit’ means any build-  
13 ing project that—

14 “(i) involves the replacement of more  
15 than 1 building system or set of building  
16 components; and

17 “(ii) requires a building permit.

18 “(D) ZERO-NET ENERGY BUILDING.—The  
19 term ‘zero-net energy building’ means a build-  
20 ing designed to produce as much energy, using  
21 renewable energy sources, as the building is  
22 projected to use, as measured on an annual  
23 basis.

1           “(2) ELIGIBILITY.—An offset project shall be  
2 eligible to receive allowances under this title if the  
3 offset project—

4           “(A) reduces carbon dioxide emissions by  
5 reducing on-site combustion of natural gas, oil,  
6 or propane for end-use in a commercial building  
7 or a residential building by improving the en-  
8 ergy efficiency of fuel usage or the energy-effi-  
9 cient delivery of energy services; and

10           “(B) meets the other requirements of this  
11 subsection.

12           “(3) REQUIREMENTS.—

13           “(A) IN GENERAL.—To be eligible to re-  
14 ceive allowances under this subsection, an offset  
15 project shall reduce carbon dioxide emissions  
16 through 1 or more of the following measures:

17           “(i) Measures to improve the energy  
18 efficiency of combustion equipment that  
19 provide space heating and hot water, in-  
20 cluding a reduction in fossil fuel consump-  
21 tion through the use of renewable energy.

22           “(ii) Measures to improve the effi-  
23 ciency of a heating distribution system, in-  
24 cluding proper sizing and commissioning of  
25 heating systems.

1                   “(iii) Installation or improvement of  
2                   energy management systems.

3                   “(iv) Measures to improve the effi-  
4                   ciency of hot water distribution systems  
5                   and reduction in demand for hot water.

6                   “(v) Measures to improve the thermal  
7                   performance of the building envelope or re-  
8                   duce building envelope air leakage.

9                   “(vi) Measures to improve the passive  
10                  solar performance of buildings and use of  
11                  active heating systems using renewable en-  
12                  ergy.

13                  “(vii) Use of a less carbon-intensive  
14                  fuel in combustion systems, including the  
15                  use of liquid or gaseous renewable fuels,  
16                  but not including a conversion to elec-  
17                  tricity.

18                  “(B) NEW BUILDINGS.—To be eligible to  
19                  receive allowances under this subsection for an  
20                  offset project a component of which is a new  
21                  building, the new building shall be designed—

22                         “(i) to replace an existing building on  
23                         the offset project site; or

24                         “(ii) to be a zero-net energy building.

25                  “(C) PERFORMANCE STANDARDS.—

1           “(i) IN GENERAL.—To be eligible to  
2 receive allowances under this subsection,  
3 an offset project shall meet the applicable  
4 performance requirements of this subpara-  
5 graph.

6           “(ii) SIZING AND INSTALLATION.—  
7 Any combustion equipment and related air  
8 handling equipment (including any HVAC  
9 system) installed as part of an offset  
10 project shall be sized and installed in ac-  
11 cordance with—

12                   “(I) for commercial HVAC sys-  
13 tems—

14                           “(aa)       ANSI/ASHRAE/  
15 IESNA Standard 90.1–2004, en-  
16 titled ‘Energy Standard for  
17 Buildings Except Low-Rise Resi-  
18 dential Buildings’ (or a successor  
19 standard); and

20                           “(bb)       ANSI/ASHRAE  
21 Standard 62.1–2004, entitled  
22 ‘Ventilation for Acceptable In-  
23 door Air Quality’ (or a successor  
24 standard); and

1 “(II) for residential HVAC sys-  
2 tems—

3 “(aa) for sizing specifica-  
4 tions, the eighth edition of the  
5 Air Conditioner Contractors of  
6 America Manual J, entitled ‘Res-  
7 idential Load Calculation’ (or  
8 successor specifications); and

9 “(bb) for applicable installa-  
10 tion specifications, the document  
11 of the Consortium for Energy Ef-  
12 ficiency entitled ‘Specification of  
13 Energy-Efficient Installation and  
14 Maintenance Practices for Resi-  
15 dential HVAC Systems’ and  
16 dated 2000 (or a successor docu-  
17 ment).

18 “(iii) WHOLE-BUILDING ENERGY PER-  
19 FORMANCE.—Any eligible new building or  
20 whole-building retrofit that is part of an  
21 offset project shall meet the following re-  
22 quirements:

23 “(I) COMMERCIAL BUILDINGS.—

24 “(aa) IN GENERAL.—Except  
25 as provided in item (bb), com-

1 commercial buildings shall exceed by  
2 at least 30 percent the energy  
3 performance requirements of  
4 ANSI/ASHRAE/IESNA Stand-  
5 ard 90.1–2004, entitled ‘Energy  
6 Standard for Buildings Except  
7 Low-Rise Residential Buildings’  
8 (or a successor standard).

9 “(bb) EXCEPTION.—A mul-  
10 tifamily residential building clas-  
11 sified as a commercial building  
12 under ANSI/ASHRAE/IESNA  
13 Standard 90.1–2004 (or a suc-  
14 cessor standard) shall exceed the  
15 energy performance requirements  
16 described in item (aa) by at least  
17 20 percent.

18 “(II) RESIDENTIAL BUILD-  
19 INGS.—Residential buildings shall ex-  
20 ceed the energy performance require-  
21 ments of the 2004 International En-  
22 ergy Conservation Code (or a suc-  
23 cessor code) by at least 30 percent.

24 “(D) OFFSET PROJECTS INITIATED BE-  
25 FORE JANUARY 1, 2009.—To be eligible to re-

1           ceive allowances under this subsection, each en-  
 2           ergy conservation measure implemented as part  
 3           of an offset project initiated before January 1,  
 4           2009, shall meet the following requirements:

5                   “(i) COMBUSTION EQUIPMENT.—

6                           “(I) IN GENERAL.—Combustion  
 7                           equipment installed as part of the off-  
 8                           set project shall meet the energy effi-  
 9                           ciency performance standards re-  
 10                          quired under this clause.

11                          “(II) COMMERCIAL BOILERS.—

12                                  “(aa) IN GENERAL.—Com-  
 13                                  mercial boilers shall meet or ex-  
 14                                  ceed the energy efficiency criteria  
 15                                  specified in the following table:

“Minimum Commercial Boiler Energy Efficiency

Technology	Size (Btu/hour)	Rating method	Minimum efficiency
Gas-fired	125,000-300,000 .....	AFUE .....	88%
Gas-fired	300,000-12,500,000 .....	Thermal effi- ciency.	90%
Oil-fired	300,000 or more .....	Thermal effi- ciency.	88%

16                                  “(bb) GAS-FIRED BOIL-  
 17                                  ERS.—A gas-fired boiler installed  
 18                                  as part of the offset project shall  
 19                                  be installed with—

1                   “(AA) controls allowing  
2                   the gas-fired boiler to oper-  
3                   ate in condensing mode,  
4                   such that the design and op-  
5                   eration of the boiler leads to  
6                   the production of condensate  
7                   in flue gases; and

8                   “(BB) vents designed  
9                   for positive vent static pres-  
10                  sure and vent gas tempera-  
11                  ture that leads to conden-  
12                  sate production in the vent.

13                  “(cc) THERMAL EFFI-  
14                  CIENCY.—For purposes of the  
15                  table contained in item (aa), the  
16                  term ‘thermal efficiency’ means  
17                  the percentage obtained by divid-  
18                  ing (as measured under steady-  
19                  state conditions, at full-rated use-  
20                  ful thermal output, with 140°F  
21                  supply from, and 120°F return  
22                  water temperature to, the boil-  
23                  er)—

1 “(AA) the useful energy  
2 output of a boiler, expressed  
3 in Btus; by

4 “(BB) the energy input  
5 of the boiler, expressed in  
6 Btus.

7 “(III) RESIDENTIAL COMBUS-  
8 TION EQUIPMENT.—

9 “(aa) IN GENERAL.—Resi-  
10 dential combustion equipment,  
11 including furnaces, boilers, and  
12 water heaters, shall meet or ex-  
13 ceed the energy efficiency criteria  
14 specified in the following table:

“Minimum Residential Combustion Equipment Energy Efficiency

Technology	Rating method	Minimum efficiency
Gas-fired furnace .....	AFUE .....	94%
Oil-fired furnace .....	AFUE .....	92%
Gas- or oil-fired boiler .....	AFUE .....	90%
Gas- or oil-fired water heater .....	Energy factor .....	0.62

15 “(bb) DEFINITIONS.—In the  
16 table contained in item (aa):

17 “(AA) BOILER.—The  
18 term ‘boiler’ means any  
19 equipment with a heat input  
20 rate of less than 300,000  
21 Btu per hour.



1 2005 (or a successor document);

2 or

3 “(bb) the requirements of  
4 State building energy codes; and

5 “(II) for energy conservation  
6 measures not subject to the require-  
7 ments of the document described in  
8 subclause (I)(aa), the more stringent  
9 energy performance requirements of,  
10 as applicable—

11 “(aa) the requirements of  
12 the document entitled ‘Federal  
13 Energy Management Program  
14 Product Energy Efficiency Rec-  
15 ommendations’, issued pursuant  
16 to Executive orders 13123 and  
17 13221 (64 Fed. Reg. 30851  
18 (June 8, 1999); 66 Fed. Reg.  
19 40571 (August 2, 2001)) (or a  
20 successor document); or

21 “(bb) the Energy Star cri-  
22 teria issued jointly by the Admin-  
23 istrator and the Secretary of En-  
24 ergy.

1           “(E) MAXIMUM MARKET PENETRATION  
2 RATE FOR OFFSET PROJECTS COMMENCED ON  
3 OR AFTER JANUARY 1, 2009.—To be eligible to  
4 receive allowances under this subsection for an  
5 offset project initiated on or after January 1,  
6 2009, the sponsor of the offset project shall  
7 demonstrate to the satisfaction of the Adminis-  
8 trator that the energy conservation measures  
9 implemented as part of the offset project have  
10 a market penetration rate of less than 5 per-  
11 cent.

12           “(4) EMISSIONS BASELINE DETERMINATION.—

13           “(A) ENERGY USAGE, EMISSIONS FACTORS,  
14 AND OXIDATION FACTORS.—

15           “(i) IN GENERAL.—The emissions  
16 baseline of an offset project that receives  
17 allowances under this subsection shall be  
18 determined by multiplying—

19           “(I) the energy usage (measured  
20 in MMBtus), by fuel type, for each  
21 energy conservation measure carried  
22 out under the offset project, as deter-  
23 mined using historic fuel use data  
24 from the most recent calendar year  
25 for which data is available; and

1 “(II) the applicable emissions  
 2 factor (measured in pounds of carbon  
 3 dioxide per MMBtu) and oxidation  
 4 factor for each fuel type, in accord-  
 5 ance with the following table:

“Emissions and Oxidation Factors

Fuel type	Emissions factor	Oxidation factor
Natural gas .....	116.98	0.995
Propane .....	139.04	0.995
Distillate fuel oil .....	161.27	0.99
Kerosene .....	159.41	0.99

6 “(ii) ENERGY USAGE DETERMINA-  
 7 TION.—

8 “(I) IN GENERAL.—For purposes  
 9 of the calculation under clause (i), the  
 10 energy usage for each energy con-  
 11 servation measure carried out under  
 12 the offset project shall be determined  
 13 in accordance with the following for-  
 14 mula: Energy usage (MMBtu) =  
 15  $BEU_{AECM} \times A$ .

16 “(II) DESCRIPTION.—In the for-  
 17 mula contained in subclause (I)—

18 “(aa) ‘ $BEU_{AECM}$ ’ represents  
 19 the annual pre-installation base-  
 20 line energy use (measured in  
 21 MMBtus), by fuel type, attrib-



1           ments, the annual pre-installation  
2           baseline energy usage for the ap-  
3           plicable application shall be de-  
4           termined based on the assump-  
5           tion that the equipment or mate-  
6           rials are installed in accordance  
7           with those requirements.

8                   “(bb) REPLACEMENT OF  
9           COMBUSTION EQUIPMENT.—For  
10          an offset project under which ex-  
11          isting combustion equipment is  
12          replaced, the minimum energy  
13          performance required by a build-  
14          ing code or equipment standard  
15          shall be considered to be the min-  
16          imum energy performance stand-  
17          ard that applies to new equip-  
18          ment that uses the same fuel  
19          type as the equipment being re-  
20          placed.

21                   “(B) ANNUAL BASELINE EMISSIONS.—

22                           “(i) IN GENERAL.—The annual base-  
23          line emissions of an offset project that re-  
24          ceives allowances under this subsection  
25          shall be calculated in accordance with the

1 following formula: Emissions (pounds of  
2 carbon dioxide) =  $\Sigma$  BEU<sub>*i*</sub> × EF<sub>*i*</sub> × OF<sub>*i*</sub>.

3 “(ii) DESCRIPTION.—In the formula  
4 contained in clause (i)—

5 “(I)(aa) the figure above the  
6 sigma shall be ‘n’; and

7 “(bb) the figure below the sigma  
8 shall be ‘*i* = 1’;

9 “(II) ‘BEU<sub>*i*</sub>’ represents the an-  
10 nual baseline energy usage for fuel  
11 type *i* (measured in MMBtus), as de-  
12 termined in accordance with para-  
13 graph (6);

14 “(III) ‘EF<sub>*i*</sub>’ represents the emis-  
15 sions factor (measured in pounds of  
16 carbon dioxide per MMBtu) for fuel  
17 type *i*, as determined in accordance  
18 with the table contained in subpara-  
19 graph (A)(i)(II); and

20 “(IV) ‘OF<sub>*i*</sub>’ represents the oxida-  
21 tion factor for fuel type *i*, as deter-  
22 mined in accordance with the table  
23 contained in subparagraph (A)(i)(II).

24 “(5) CALCULATING EMISSIONS REDUCTIONS.—

1           “(A) IN GENERAL.—The emissions reduc-  
2           tions of an offset project that receives allow-  
3           ances under this subsection shall be determined,  
4           based on the annual energy savings, by fuel  
5           type, for each energy conservation measure car-  
6           ried out under the offset project, in accordance  
7           with this paragraph.

8           “(B) ANNUAL ENERGY SAVINGS.—

9           “(i) IN GENERAL.—The annual en-  
10          ergy savings of an offset project that re-  
11          ceives allowances under this subsection  
12          shall be determined in accordance with the  
13          following formula: Energy savings  
14          (MMBtu) = (BEU<sub>AECM</sub> × A) -  
15          (PIEU<sub>ECM</sub> × A).

16          “(ii) DESCRIPTION.—In the formula  
17          contained in clause (i)—

18                 “(I) ‘BEU<sub>AECM</sub>’ represents the  
19                 annual pre-installation baseline energy  
20                 use (measured in MMBtus), by fuel  
21                 type, of an application subject to an  
22                 energy conservation measure under  
23                 the offset project, as determined sub-  
24                 ject to clause (iii);

1                   “(II) ‘PIEU<sub>ECM</sub>’ represents the  
2                   annual post-installation energy use  
3                   (measured in MMBtus), by fuel type,  
4                   attributable to the energy conserva-  
5                   tion measure, as verified in accord-  
6                   ance with ASHRAE Guideline 14–  
7                   2002, entitled ‘Measurement of En-  
8                   ergy and Demand Savings’ (or a suc-  
9                   cessor guideline); and

10                   “(III) ‘A’ represents adjustments  
11                   required to account for differing con-  
12                   ditions during the pre-installation and  
13                   post-installation periods, such as  
14                   weather, building occupancy, and  
15                   changes in building use or function,  
16                   as adjusted in accordance with—

17                   “(aa) for commercial build-  
18                   ings, ASHRAE Guideline 14–  
19                   2002, entitled ‘Measurement of  
20                   Energy and Demand Savings’,  
21                   and section 11 and appendix G of  
22                   ANSI/ASHRAE/IESNA Stand-  
23                   ard 90.1–2004 (or successor  
24                   specifications); and

1                   “(bb) for residential build-  
2                   ings, RESNET National Home  
3                   Energy Rating Technical Guide-  
4                   lines, 2006 (Chapter 3 and Ap-  
5                   pendix A of 2006 Mortgage In-  
6                   dustry National Home Energy  
7                   Rating System Standards) (or  
8                   successor guidelines).

9                   “(iii) PRE-INSTALLATION BASELINE  
10                  ENERGY USE DETERMINATIONS FOR NEW  
11                  BUILDINGS.—The pre-installation baseline  
12                  energy use of any new building in which an  
13                  energy conservation measure will be car-  
14                  ried out under an offset project shall be  
15                  determined based on a reference building  
16                  that is equivalent in basic configuration,  
17                  orientation, and location to the new build-  
18                  ing, in accordance with ASHRAE Guide-  
19                  line 14–2002, entitled ‘Measurement of  
20                  Energy and Demand Savings’ and section  
21                  11 and appendix G of ANSI/ASHRAE/  
22                  IESNA Standard 90.1–2004 (or successor  
23                  specifications).

24                  “(C) ANNUAL EMISSIONS REDUCTIONS.—

1                   “(i) IN GENERAL.—The annual emis-  
2                   sions reductions of an offset project that  
3                   receives allowances under this subsection  
4                   shall be determined in accordance with the  
5                   following formula: Emissions reduction  
6                   (pounds of carbon dioxide) =  $\sum ES_i \times EF_i$   
7                    $\times OF_i$ .

8                   “(ii) DESCRIPTION.—In the formula  
9                   contained in clause (i)—

10                   “(I)(aa) the figure above the  
11                   sigma shall be ‘n’; and

12                   “(bb) the figure below the sigma  
13                   shall be ‘ $i = 1$ ’;

14                   “(II) ‘ $ES_i$ ’ represents the energy  
15                   savings for fuel type  $i$  (measured in  
16                   MMBtus), as determined in accord-  
17                   ance with paragraph (6);

18                   “(III) ‘ $EF_i$ ’ represents the emis-  
19                   sions factor (measured in pounds of  
20                   carbon dioxide per MMBtu) for fuel  
21                   type  $i$ , as determined in accordance  
22                   with the table contained in subpara-  
23                   graph (A)(i)(II); and

24                   “(IV) ‘ $OF_i$ ’ represents the oxida-  
25                   tion factor for fuel type  $i$ , as deter-



1 Energy and Demand Savings’, as  
2 applicable (or successor specifica-  
3 tions); and

4 “(bb)(AA) volume I of the  
5 International Performance Meas-  
6 urement and Verification Pro-  
7 tocol, entitled ‘Concepts and Op-  
8 tions for Determining Energy  
9 and Water Savings’, specifically  
10 the documents entitled ‘Option  
11 B. Retrofit Isolation’ and ‘Option  
12 D. Calibrated Simulation’ (or  
13 successor specifications); or

14 “(BB) if a building project  
15 carried out under the offset  
16 project involves only energy con-  
17 servation measures implemented  
18 as part of a carbon dioxide emis-  
19 sions offset project, the document  
20 of the volume referred to in  
21 subitem (AA) entitled ‘Option C.  
22 Whole Facility’ (or successor  
23 specifications).

24 “(II) NEW BUILDINGS.—For new  
25 commercial buildings constructed

1 under the applicable offset project,  
2 baseline energy usage shall be deter-  
3 mined in accordance with—

4 “(aa) the detailed specifica-  
5 tions in ASHRAE Guideline 14–  
6 2002, entitled ‘Measurement of  
7 Energy and Demand Savings’, as  
8 applicable (or successor specifica-  
9 tions); and

10 “(bb) volume III of the  
11 International Performance Meas-  
12 urement and Verification Pro-  
13 tocol, entitled ‘Concepts and Op-  
14 tions for Determining Energy  
15 Savings in New Construction’,  
16 specifically the document entitled  
17 ‘Option D. Calibrated Simula-  
18 tion’ (or successor specifications).

19 “(ii) RESIDENTIAL BUILDINGS.—For  
20 any residential building relating to the ap-  
21 plicable offset project, baseline energy  
22 usage shall be determined in accordance  
23 with the RESNET National Home Energy  
24 Rating Technical Guidelines, 2006 (Chap-  
25 ter 3 and Appendix A of 2006 Mortgage

1 Industry National Home Energy Rating  
2 System Standards) (or successor guide-  
3 lines).

4 “(D) ISOLATION OF ENERGY CONSERVA-  
5 TION MEASURES.—

6 “(i) IN GENERAL.—For purposes of  
7 calculating baseline energy usage and en-  
8 ergy savings under this subsection, the  
9 sponsor of the offset project shall isolate  
10 the impact of each eligible energy con-  
11 servation measure, to the maximum extent  
12 practicable, through direct metering or,  
13 subject to subparagraph (E), energy sim-  
14 ulation modeling.

15 “(ii) PROJECTS WITH MULTIPLE  
16 MEASURES.—

17 “(I) IN GENERAL.—For offset  
18 projects under which multiple energy  
19 conservation measures are carried out,  
20 and for which individual energy con-  
21 servation measures could affect the  
22 performance of other energy conserva-  
23 tion measures, the total energy sav-  
24 ings due to individual energy con-  
25 servation measures shall be adjusted

1 to account for the interaction of the  
2 energy conservation measures in ac-  
3 cordance with this clause.

4 “(II) COMMERCIAL BUILDINGS.—  
5 For commercial buildings, the adjust-  
6 ment under subclause (I) shall be in  
7 accordance with ASHRAE Guideline  
8 14–2002, entitled ‘Measurement of  
9 Energy and Demand Savings’, and  
10 ANSI/ASHRAE/IESNA Standard  
11 90.1–2004, entitled ‘Energy Standard  
12 for Buildings Except Low-Rise Resi-  
13 dential Buildings’ (or successor speci-  
14 fications).

15 “(III) RESIDENTIAL BUILD-  
16 INGS.—For residential buildings, the  
17 adjustment under subclause (I) shall  
18 be in accordance with RESNET Na-  
19 tional Home Energy Rating Technical  
20 Guidelines, 2006 (Chapter 3 and Ap-  
21 pendix A of 2006 Mortgage Industry  
22 National Home Energy Rating Sys-  
23 tem Standards) (or successor guide-  
24 lines).

25 “(E) SIMULATION MODELING.—

1           “(i) IN GENERAL.—Any reduction in  
2 energy usage due to an energy conserva-  
3 tion measure under an offset project shall  
4 be calculated based only on actual energy  
5 usage data.

6           “(ii) LIMITATION.—Energy simulation  
7 modeling—

8           “(I) shall only be used to deter-  
9 mine the relative percentage contribu-  
10 tion to total fuel usage, for each fuel  
11 type, of an application targeted by an  
12 energy conservation measure under an  
13 offset project; and

14           “(II) shall be carried out under  
15 subclause (I) in accordance with—

16           “(aa) for commercial build-  
17 ings in existence on the date on  
18 which the applicable offset  
19 project is commenced, ASHRAE  
20 Guideline 14–2002, entitled  
21 ‘Measurement of Energy and De-  
22 mand Savings’ and section 11  
23 and appendix G of ANSI/  
24 ASHRAE/IESNA Standard

1 90.1–2004 (or successor speci-  
2 fications); and

3 “(bb) for residential build-  
4 ings, RESNET National Home  
5 Energy Rating Technical Guide-  
6 lines, 2006 (Chapter 3 and Ap-  
7 pendix A of 2006 Mortgage In-  
8 dustry National Home Energy  
9 Rating System Standards) (or  
10 successor guidelines).

11 “(F) SAMPLING FOR RESIDENTIAL BUILD-  
12 INGS.—

13 “(i) IN GENERAL.—The sponsor of  
14 any offset project that carries out similar  
15 energy conservation measures in multiple  
16 residential buildings may use representa-  
17 tive sampling of the residential buildings to  
18 determine the aggregate baseline energy  
19 usage and energy savings of the offset  
20 projects.

21 “(ii) REQUIREMENTS.—Representa-  
22 tive sampling carried out under clause (i)  
23 shall be in accordance with sound statis-  
24 tical methods, such that there is 95 per-

1 cent confidence that the reported value is  
2 within 10 percent of the true mean.

3 “(e) AVOIDED METHANE EMISSIONS FROM AGRICULTURAL MANURE MANAGEMENT OPERATIONS.—

4  
5 “(1) IN GENERAL.—An offset project that captures and destroys methane from animal manure  
6 and organic food waste using an anaerobic digester  
7 in accordance with this subsection shall be eligible to  
8 receive allowances under this title.  
9

10 “(2) REQUIREMENTS.—

11 “(A) IN GENERAL.—To be eligible to receive allowances under this subsection, an offset  
12 project described in paragraph (1) shall—  
13

14 “(i) involve the destruction of the portion of methane generated by an anaerobic  
15 digester that would have been generated in  
16 the absence of the offset project through  
17 the uncontrolled anaerobic storage of manure or organic food waste;  
18

19  
20 “(ii) use only manure-based anaerobic digester systems, using livestock manure to  
21 provide greater than 50 percent of annual  
22 digester feedstock; and  
23

24 “(iii) use organic food waste for anaerobic digesters only in a quantity that  
25

1 would have been stored in anaerobic condi-  
2 tions in the absence of the offset project.

3 “(B) DETERMINATION OF MARKET PENE-  
4 TRATION RATE.—

5 “(i) IN GENERAL.—The market pene-  
6 tration rate of a State shall be determined  
7 using the most recent market data avail-  
8 able on the date of submission of an appli-  
9 cation, in accordance with the following  
10 formula:  $MP (\%) = MG_{AD} / MG_{STATE}$ .

11 “(ii) DESCRIPTION.—In the formula  
12 contained in clause (i)—

13 “(I) ‘ $MG_{AD}$ ’ represents the aver-  
14 age annual manure production for the  
15 number of dairy cows and swine serv-  
16 ing all anaerobic digester projects in  
17 the applicable State on the date of  
18 submission of an application; and

19 “(II) ‘ $MG_{STATE}$ ’ represents the  
20 average annual manure production of  
21 all dairy cows and swine in the State  
22 on the date of submission of the appli-  
23 cation).

24 “(3) EMISSIONS BASELINE.—

1           “(A) IN GENERAL.—The emissions base-  
2 line of an offset project that receives allowances  
3 under this subsection shall represent the poten-  
4 tial emissions of the methane that, in the ab-  
5 sence of the offset project, would have been—

6           “(i) produced in a baseline scenario  
7 under uncontrolled anaerobic storage con-  
8 ditions; and

9           “(ii) released directly into the atmos-  
10 phere.

11           “(B) CALCULATION.—

12           “(i) IN GENERAL.—The baseline  
13 methane emissions of an offset project  
14 under this subsection shall be calculated in  
15 accordance with the following formula:  
16  $\text{CO}_2\text{e (tons)} = (\text{V}_m \times \text{M})/2000 \times \text{GWP}.$

17           “(ii) DESCRIPTION.—In the formula  
18 contained in clause (i)—

19           “(I) ‘CO<sub>2</sub>e’ represents the poten-  
20 tial carbon dioxide-equivalent emis-  
21 sions due to calculated methane pro-  
22 duction under site-specific anaerobic  
23 storage and weather conditions;

24           “(II) ‘V<sub>m</sub>’ (expressed in cubic  
25 feet) represents the volume of meth-

1           ane produced each month from deg-  
2           radation of volatile solids in a baseline  
3           uncontrolled anaerobic storage sce-  
4           nario (as calculated under clauses (iii)  
5           and (iv)) under site-specific storage  
6           and weather conditions for the facility  
7           at which the manure or organic food  
8           waste is generated;

9                   “(III) ‘M’ represents the mass of  
10                  methane per cubic foot (with a default  
11                  value of 0.04246 pounds per cubic  
12                  foot at 1 atmosphere and 20°C); and

13                   “(IV) ‘GWP’ represents the glob-  
14                  al warming potential of methane (with  
15                  a default value of 23).

16                  “(iii) VOLATILE SOLIDS.—

17                   “(I) IN GENERAL.—For purposes  
18                  of clause (ii)(II), the estimated quan-  
19                  tity of volatile solids degraded each  
20                  month under the baseline uncontrolled  
21                  anaerobic storage scenario (measured  
22                  in kilograms) shall be calculated in ac-  
23                  cordance with the following formula:

24                  
$$VS_{\text{deg}} = VS_{\text{avail}} \times f.$$

1                   “(II) VOLATILE SOLIDS AVAIL-  
2 ABLE FOR DEGRADATION.—

3                   “(aa) IN GENERAL.—In the  
4 formula contained in subclause  
5 (I), ‘VS<sub>avail</sub>’ represents the quan-  
6 tity of volatile solids available for  
7 degradation in manure or organic  
8 food waste storage each month,  
9 determined in accordance with  
10 the following formula:  $VS_{avail} =$   
11  $VS_p + \frac{1}{2} VS_{in} - VS_{out}$ .

12                   “(bb) DESCRIPTION.—In the  
13 formula contained in item (aa)—

14                   “(AA) ‘VS<sub>p</sub>’ represents  
15 the quantity of volatile solids  
16 (expressed in kilograms)  
17 present in manure or or-  
18 ganic food waste storage at  
19 the beginning of the applica-  
20 ble month (including any  
21 manure or waste remaining  
22 from a preceding month);

23                   “(BB) ‘VS<sub>in</sub>’ represents  
24 the quantity of volatile solids  
25 (expressed in kilograms)

1 added to manure or organic  
2 food waste storage during  
3 the course of the applicable  
4 month, which is halved to  
5 represent the average mass  
6 of volatile solids available for  
7 degradation for the month;  
8 and

9 “(CC) ‘VS<sub>out</sub>’ rep-  
10 resents the quantity (ex-  
11 pressed in kilograms) of  
12 volatile solids removed from  
13 the manure or organic food  
14 waste storage for land appli-  
15 cation or export, which may  
16 be assumed based on stand-  
17 ard farm practice.

18 “(III) VAN’T HOFF-ARRHENIUS  
19 FACTOR.—

20 “(aa) IN GENERAL.—In the  
21 formula contained in subclause  
22 (I), ‘f’ represents the van’t Hoff-  
23 Arrhenius factor, which measures  
24 the conversion efficiency of vola-  
25 tile solids to methane, for a given

1 month, determined using a base  
2 temperature of 30°C in accord-  
3 ance with the following formula:  $f$   
4  $= \exp[E(T_2 - T_1)]/[(GC \times T_1 \times$   
5  $T_2)]$ .

6 “(bb) DESCRIPTION.—In the  
7 formula contained in item (aa)—

8 “(AA) ‘E’ represents  
9 the activation energy con-  
10 stant (with a default value  
11 of 15,175 cal/mol);

12 “(BB) ‘T<sub>2</sub>’ represents  
13 the average monthly ambient  
14 temperature for the facility  
15 at which manure or organic  
16 food waste is generated (as  
17 converted from Celsius to  
18 Kelvin), as determined by  
19 the nearest National Weath-  
20 er Service-certified weather  
21 station (if reported tempera-  
22 ture °C > 5° C; if reported  
23 temperature °C < 5° C,  
24 then  $F = 0.104$ );

1 “(CC) ‘T<sub>1</sub>’ equals

2 303.16; and

3 “(DD) ‘GC’ represents

4 the ideal gas constant (with

5 a default value of 1.987 cal/

6 K mol).

7 “(IV) GENERAL VOLATILE SOL-

8 IDS CALCULATIONS.—

9 “(aa) IN GENERAL.—For

10 purposes of this clause, a quan-

11 tity of volatile solids may be de-

12 termined in accordance with the

13 following formula:  $VS = M_m \times$

14  $TS_{\neq} \times VS_{\neq}$ .

15 “(bb) DESCRIPTION.—In the

16 formula contained in item (aa)—

17 “(AA) ‘M<sub>m</sub>’ represents

18 the mass (expressed in kilo-

19 grams) of manure or organic

20 food waste produced per

21 month;

22 “(BB) ‘TS<sub>≠</sub>’ represents

23 the concentration (expressed

24 as a percentage) of total sol-

25 ids in manure or organic

1 food waste, as determined in  
2 accordance with the testing  
3 method of the Environ-  
4 mental Protection Agency  
5 numbered 160.3 (as con-  
6 tained in the document of  
7 the Environmental Protec-  
8 tion Agency entitled ‘Meth-  
9 ods for the Chemical Anal-  
10 ysis of Water and Wastes’  
11 (EPA/600/4-79/020)) (or a  
12 successor document); and

13 “(CC) ‘VS<sub>z</sub>’ represents  
14 the concentration (expressed  
15 as a percentage) of volatile  
16 solids in total solids, as de-  
17 termined in accordance with  
18 the testing method of the  
19 Environmental Protection  
20 Agency numbered 160.4 (as  
21 contained in the document  
22 of the Environmental Pro-  
23 tection Agency entitled  
24 ‘Methods for the Chemical  
25 Analysis of Water and

1 Wastes' (EPA/600/4-79/  
2 020)) (or a successor docu-  
3 ment).

4 “(iv) VOLUME OF METHANE PRO-  
5 DUCED.—

6 “(I) IN GENERAL.—For purposes  
7 of clause (ii)(II), the volume of meth-  
8 ane produced each month from deg-  
9 radation of volatile solids in a baseline  
10 uncontrolled anaerobic storage sce-  
11 nario (measured in cubic feet) shall be  
12 calculated in accordance with the fol-  
13 lowing formula:  $V_m = (VS_{deg} \times B_o) \times$   
14 35.3147.

15 “(II) DESCRIPTION.—In the for-  
16 mula contained in subclause (I)—

17 “(aa) ‘ $VS_{deg}$ ’ represents the  
18 quantity (measured in kilograms)  
19 of volatile solids degraded, as de-  
20 termined in accordance with  
21 clause (iii); and

22 “(bb) ‘ $B_o$ ’ represents the  
23 quantity of manure or organic  
24 food waste type-specific max-  
25 imum methane generation con-

1           stant (expressed as cubic meters  
2           of methane per kilogram of vola-  
3           tile solids degraded), as deter-  
4           mined in accordance with sub-  
5           clause (III).

6           “(III) METHANE GENERATION  
7           CONSTANT.—For purposes of sub-  
8           clause (II)(bb), the quantity of ma-  
9           nure or organic food waste type-spe-  
10          cific maximum methane generation  
11          constant shall be—

12                   “(aa) for dairy cow manure,  
13                   0.24 cubic meters of methane per  
14                   kilogram of volatile solids de-  
15                   graded; and

16                   “(bb) for any other type of  
17                   manure—

18                           “(AA) the constant  
19                           specified in the document of  
20                           the Environmental Protec-  
21                           tion Agency entitled ‘Inven-  
22                           tory of United States Green-  
23                           house Gas Emissions and  
24                           Sinks: 1990–2004, Annex  
25                           3.10, Table 3–89’ and dated

1 April 2006 (or a successor  
2 document); or

3 “(BB) such other meth-  
4 ane generation constant as  
5 the sponsor of the applicable  
6 offset project may specify, if  
7 the sponsor provides to the  
8 Administrator appropriate  
9 justification and documenta-  
10 tion for the constant.

11 “(4) EMISSIONS REDUCTIONS.—

12 “(A) IN GENERAL.—The emissions reduc-  
13 tions of an offset project that receives allow-  
14 ances under this subsection shall be determined  
15 based on the potential emissions (measured in  
16 tons of carbon dioxide equivalent) of methane  
17 that would have been produced, and released di-  
18 rectly into the atmosphere, in the absence of  
19 the offset project under a baseline scenario that  
20 represents uncontrolled anaerobic storage condi-  
21 tions, as determined in accordance with para-  
22 graph (3), taking into account fugitive methane  
23 emissions that may be released into the atmos-  
24 phere through leaks in the anaerobic digester  
25 equipment.

1           “(B) LIMITATION.—The emissions reduc-  
2           tions of an offset project shall not exceed the  
3           potential emissions of the anaerobic digester of  
4           the offset project, as determined based on the  
5           annual volume of methane produced by the an-  
6           aerobic digester and monitored in accordance  
7           with paragraph (5).

8           “(C) REGIONAL-TYPE DIGESTER OFFSET  
9           PROJECTS.—

10           “(i) IN GENERAL.—If an offset  
11           project is a regional-type digester offset  
12           project, as determined by the Adminis-  
13           trator, carbon dioxide emissions due to  
14           transportation of manure and organic food  
15           waste from the site at which the manure  
16           and organic food waste was generated to  
17           the anaerobic digester shall be subtracted  
18           from the emissions reduction value deter-  
19           mined under paragraph (3) for the offset  
20           project.

21           “(ii) DETERMINATION OF CARBON DI-  
22           OXIDE EMISSIONS.—For purposes of clause  
23           (i), carbon dioxide emissions due to trans-  
24           portation of manure and organic food  
25           waste from the site at which the manure

1 and organic food waste was generated to  
2 the anaerobic digester shall be determined  
3 in accordance with 1 of the following meth-  
4 ods:

5 “(I) Documentation of all quan-  
6 tities of fuel used to transport from  
7 off-site all shipments of manure and  
8 organic food waste to the anaerobic  
9 digester of the offset project during  
10 the applicable year (including a log of  
11 transport miles for each shipment),  
12 from which carbon dioxide emissions  
13 shall be determined through the appli-  
14 cation of the following emissions fac-  
15 tors (based on the type of fuel used):

16 “(aa) For diesel fuel, 22.912  
17 pounds of carbon dioxide per gal-  
18 lon.

19 “(bb) For gasoline, 19.878  
20 pounds of carbon dioxide per gal-  
21 lon.

22 “(cc) For any other fuel,  
23 such emissions factor as the Ad-  
24 ministrator determines to be ap-  
25 propriate.



1           “(A) IN GENERAL.—The sponsor of each  
2           offset project that receives allowances under  
3           this subsection shall—

4                   “(i) ensure that the offset project uses  
5                   a system that provides metering of biogas  
6                   volumetric flow rate and determination of  
7                   methane concentration; and

8                   “(ii) submit to the Administrator an  
9                   annual report, including a description of  
10                  the monthly biogas volumetric flow rate  
11                  and methane concentration determinations  
12                  for the offset project.

13           “(B) REGIONAL-TYPE DIGESTER OFFSET  
14           PROJECTS.—

15                   “(i) IN GENERAL.—The sponsor of an  
16                   offset project that is a regional-type di-  
17                   gestor offset project, as determined by the  
18                   Administrator, shall ensure monthly sam-  
19                   pling of the manure and organic food  
20                   waste from each distinct source supplying  
21                   the anaerobic digester to determine the  
22                   quantity of volatile solids present in the  
23                   manure and waste.

24                   “(ii) SUPPORTING MATERIAL.—In the  
25                   annual report relating to the offset project

1 submitted under subparagraph (A)(ii), the  
2 sponsor shall provide supporting material  
3 and receipts tracking the monthly receipt  
4 from each supplier to the offset project of  
5 quantities of manure and organic food  
6 waste (measured in kilograms) for the an-  
7 aerobic digester.

8 “(iii) EMISSIONS REDUCTION CAL-  
9 CULATION REQUIREMENT.—The emissions  
10 reduction of an offset project described in  
11 clause (i) shall be calculated according to,  
12 and apportioned among sources based on,  
13 as determined in accordance with para-  
14 graphs (3) and (4)—

15 “(I) the mass (measured in kilo-  
16 grams) of manure and organic food  
17 waste digested as a result of the offset  
18 project; and

19 “(II) the percentage of volatile  
20 solids present before digestion.

21 “(C) ADDITIONAL MONTHLY SAMPLES.—  
22 The sponsor of an offset project that includes  
23 the digestion of organic food waste shall ensure  
24 monthly sampling of the organic food waste to  
25 determine in accordance with paragraphs (3)

1 and (4), and apportion accordingly, the quan-  
 2 tity of volatile solids present in the waste before  
 3 digestion.

4 “(D) OTHER MONITORING REQUIRE-  
 5 MENTS.—In addition to the requirements of  
 6 subparagraphs (A) through (C), an offset  
 7 project shall meet the applicable requirements  
 8 contained in the following table:

“Input Monitoring Requirements

Input parameter	Measurement unit	Frequency of sampling	Sampling method
Influent flow into digester.	Kilograms per month (wet weight).	Monthly total into digester	Recorded weight; digester influent pump flow; livestock population and application of standard
Influent total solids concentration.	Percent of sample	Monthly, depending on recorded variations	EPA Method Number 160.3, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)
Influent volatile solids concentration.	Percent of total solids.	Monthly, depending on recorded variations	EPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)
Average monthly ambient temperature.	Temperature (Celsius).	Monthly (based on farm averages)	Closest National Weather Service-certified weather station

9 “(f) ELIGIBLE BIOMASS.—



1 “(ii) SOLID FUEL.—

2 “(I) IN GENERAL.—The as-fired  
3 carbon dioxide emissions factor of an  
4 offset project under this subsection  
5 that uses solid fuel shall be deter-  
6 mined in accordance with the fol-  
7 lowing formula:  $\text{CO}_2 \text{ lbs/MMBtu} =$   
8  $((C \times F_{\text{IN}})/\text{HI}) (44/12)$ .

9 “(II) ABBREVIATIONS.—

10 “(aa) IN GENERAL.—In the  
11 formula contained in subclause  
12 (I)—

13 “(AA) ‘C’ represents  
14 the carbon content of bio-  
15 mass (expressed as a per-  
16 centage by dry weight) for a  
17 distinct fuel type;

18 “(BB) ‘ $F_{\text{IN}}$ ’ represents  
19 the total biomass fuel input  
20 (expressed in pounds) for a  
21 distinct fuel type; and

22 “(CC) ‘HI’ represents  
23 the heat input, as-fired (ex-  
24 pressed in MMBtus), as de-  
25 termined in accordance with

1 the following formula:  $HI =$   
 2  $\Sigma (HHV_{\text{DRY}} (1-$   
 3  $MCW_{\text{AS-FIRED-}i})) \times F_{\text{IN-}i}.$

4 “(bb) DESCRIPTION.—In the  
 5 formula contained in item  
 6 (aa)(CC)—

7 “(AA) the figure above  
 8 the sigma shall be ‘n’;

9 “(BB) the figure below  
 10 the sigma shall be ‘ $i = 1$ ’;

11 “(CC) ‘ $HHV_{\text{DRY}}$ ’ rep-  
 12 represents the higher heating  
 13 value (expressed in Btu/lb)  
 14 on a dry basis for a distinct  
 15 fuel type fired;

16 “(DD) ‘ $MCW_{\text{AS-FIRED-}i}$ ’  
 17 represents the moisture con-  
 18 tent on a wet basis (ex-  
 19 pressed as a percentage) for  
 20 each shipment  $i$  fired; and

21 “(EE) ‘ $F_{\text{IN-}i}$ ’ represents  
 22 the biomass fuel input (ex-  
 23 pressed in pounds) for each  
 24 shipment  $i$  fired.

25 “(iii) GASEOUS FUEL.—

1                   “(I) IN GENERAL.—The as-fired  
2 carbon dioxide emissions factor of an  
3 offset project under this subsection  
4 that uses gaseous fuel shall be deter-  
5 mined in accordance with the fol-  
6 lowing formula:  $\text{CO}_2 \text{ lbs/MMBtu} = (\text{C}$   
7  $\times (\text{F}_{\text{IN}} \times \text{D}))/\text{HI}$  (44/12).

8                   “(II) ABBREVIATIONS.—

9                   “(aa) IN GENERAL.—In the  
10 formula contained in subclause  
11 (I)—

12                   “(AA) ‘C’ represents  
13 the carbon content of bio-  
14 mass (expressed as a per-  
15 centage by weight) for a dis-  
16 tinct fuel type;

17                   “(BB) ‘ $\text{F}_{\text{IN}}$ ’ represents  
18 the total biomass fuel input  
19 (expressed in pounds) for a  
20 distinct fuel type;

21                   “(CC) ‘D’ represents  
22 the density of biogas (ex-  
23 pressed in pounds per stand-  
24 ard cubic feet) for a distinct  
25 fuel type; and

1 “(DD) ‘HI’ represents  
2 the heat input, as-fired (ex-  
3 pressed in MMBtus), as de-  
4 termined in accordance with  
5 the following formula:  $HI =$   
6  $HHV \times F_{IN}$ .

7 “(bb) DESCRIPTION.—In the  
8 formula contained in item  
9 (aa)(DD)—

10 “(AA) ‘HHV’ rep-  
11 resents the higher heating  
12 value (expressed in Btus per  
13 standard cubic feet) for a  
14 distinct fuel type; and

15 “(BB) ‘ $F_{IN}$ ’ represents  
16 the biogas fuel input (ex-  
17 pressed in standard cubic  
18 feet).

19 “(B) CARBON DIOXIDE EMISSIONS DUE TO  
20 FIRING OF ELIGIBLE BIOMASS.—

21 “(i) IN GENERAL.—The carbon diox-  
22 ide emissions due to firing of eligible bio-  
23 mass of an offset project under this sub-  
24 section shall be determined in accordance

1 with the following formula:  $\text{CO}_2 \text{ tons} = \Sigma$   
2  $(B_{\text{HI-}i} \times B_{\text{EF-}i} \times B_{\text{OF-}i})/2000$ .

3 “(ii) ABBREVIATIONS.—In the for-  
4 mula contained in clause (i)—

5 “(I)(aa) the figure above the  
6 sigma shall be ‘n’; and

7 “(bb) the figure below the sigma  
8 shall be ‘ $i = 1$ ’;

9 “(II) ‘ $B_{\text{HI-}i}$ ’ represents the eligi-  
10 ble biomass heat input, as-fired (ex-  
11 pressed in MMBtus), for the reporting  
12 quarter for each distinct type  $i$  of eli-  
13 gible biomass fired;

14 “(III) ‘ $B_{\text{EF-}i}$ ’ represents the eligi-  
15 ble biomass emissions factor for the  
16 reporting quarter (expressed in  
17 pounds of carbon dioxide per MMBtu)  
18 for each distinct type  $i$  of eligible bio-  
19 mass fired; and

20 “(IV) ‘ $B_{\text{OF-}i}$ ’ represents the eligi-  
21 ble biomass oxidation factor for each  
22 distinct type  $i$  of eligible biomass  
23 fired, derived for solid fuel based on  
24 the ash content of the eligible biomass  
25 fired and the carbon content of that

1 ash, as determined pursuant to para-  
2 graph (4)(A) (with a default value for  
3 gaseous biomass fuel of 0.995).

4 “(C) APPLICABLE STANDARDS.—Each fuel  
5 sampling method and technology used to make  
6 a calculation under this paragraph shall be in  
7 accordance with the applicable standards con-  
8 tained in the New York State Renewable Port-  
9 folio Standard Biomass Guidebook dated May  
10 2006 (or successor standards).

11 “(4) MONITORING AND VERIFICATION.—

12 “(A) IN GENERAL.—Not less frequently  
13 than once each quarter of each calendar year  
14 during which an offset project receives an allow-  
15 ance under this title, the owner or operator of  
16 the offset project shall submit to the Adminis-  
17 trator a report describing—

18 “(i) a chemical analysis (including  
19 carbon content and heating value) of eligi-  
20 ble biomass fired by the offset project;

21 “(ii) the moisture content of eligible  
22 biomass for each shipment received for fir-  
23 ing by the offset project;

1           “(iii) the total eligible biomass fuel  
2 input (expressed in units of mass or vol-  
3 ume, as appropriate) to the offset project;

4           “(iv) the total eligible biomass heat  
5 input, on an as-fired basis (expressed in  
6 MMBtus), to the offset project;

7           “(v) the heat input rate (expressed in  
8 MMBtus per hour) of eligible biomass to  
9 the offset project;

10          “(vi) the fuel feed rate of eligible bio-  
11 mass to the offset project (expressed in  
12 units of mass or volume per hour, as ap-  
13 propriate);

14          “(vii) the total number of operating  
15 hours during which eligible biomass was  
16 fired by the offset project;

17          “(viii) the number of tons of carbon  
18 dioxide emitted from the offset project due  
19 to firing of eligible biomass;

20          “(ix) the fuel sampling frequency,  
21 monitoring technology, and methodology  
22 used by the offset project, including sup-  
23 porting documentation;

1           “(x) the additional information re-  
2           quired under subparagraph (B), if any;  
3           and

4           “(xi) the carbon dioxide emissions fac-  
5           tor of the offset project, calculated in ac-  
6           cordance with paragraph (3).

7           “(B)    ADDITIONAL    DATA    REQUIRE-  
8           MENTS.—

9           “(i)    INDEPENDENT    SYSTEM    OPER-  
10          ATOR DATA.—The owner or operator of an  
11          offset project located in a State that re-  
12          quires the use of information submitted to  
13          an independent system operator to estab-  
14          lish the megawatt-hours of the offset  
15          project shall submit to the Administrator,  
16          together with the report under subpara-  
17          graph (A)—

18                 “(I) the megawatt-hour value  
19                 submitted to the independent system  
20                 operator; and

21                 “(II) a statement certifying that  
22                 the megawatt-hour value reflects the  
23                 total actual electrical output for all  
24                 offset projects at the facility used by  
25                 the independent system operator to

1 determine the settlement resources of  
2 energy market participants.

3 “(ii) GROSS OUTPUT DATA.—The  
4 owner or operator of an offset project that  
5 submits to the Administrator information  
6 described in clause (i), and that is located  
7 in a State that requires the use of gross  
8 output data with respect to the offset  
9 project, shall submit to the Administrator,  
10 together with the information under clause  
11 (i), an electronic data report describing the  
12 gross output (expressed in megawatts) of  
13 the offset project, as calculated by adding,  
14 for each hour of the applicable quarter  
15 during which the offset project was in op-  
16 eration, the product obtained by multi-  
17 plying—

18 “(I) the gross output (expressed  
19 in megawatts) of the offset project for  
20 the hour; and

21 “(II) the proportion that—

22 “(aa) the number of minutes  
23 of the hour during which the off-  
24 set project was in operation;  
25 bears to

1

“(bb) 60.”.