

Nos. 22-1030; 23-1285; 23-1337

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**IN THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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AMERICAN GAS ASSOCIATION; AMERICAN PUBLIC GAS  
ASSOCIATION; NATIONAL PROPANE GAS ASSOCIATION; THERMO  
PRODUCTS, LLC; SPIRE INC., SPIRE ALABAMA INC.; SPIRE MISSOURI  
INC.

*Petitioners,*

*v.*

U.S. DEPARTMENT OF ENERGY; OFFICE OF ENERGY EFFICIENCY  
AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY; JENNIFER M.  
GRANHOLM, SECRETARY, U.S. DEPARTMENT OF ENERGY,

*Respondents.*

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On Petitions for Review of Final Rules of the  
U.S. Department of Energy

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**STATUTORY ADDENDUM TO PETITIONERS' JOINT OPENING  
BRIEF**

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Dated: April 9, 2024

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**42 U.S.C. § 6306(b)****§ 6306. Administrative procedure and judicial review.****(b) Petition by persons adversely affected by rules; effect on other laws**

(1) Any person who will be adversely affected by a rule prescribed under section 6293, 6294, or 6295 of this title may, at any time within 60 days after the date on which such rule is prescribed, file a petition with the United States court of appeals for the circuit in which such person resides or has his principal place of business, for judicial review of such rule. A copy of the petition shall be transmitted by the clerk of the court to the agency which prescribed the rule. Such agency shall file in the court the written submissions to, and transcript of, the proceedings on which the rule was based, as provided in section 2112 of Title 28.

(2) Upon the filing of the petition referred to in paragraph (1), the court shall have jurisdiction to review the rule in accordance with chapter 7 of Title 5 and to grant appropriate relief as provided in such chapter. No rule under section 6293, 6294, or 6295 of this title may be affirmed unless supported by substantial evidence.

(3) The judgment of the court affirming or setting aside, in whole or in part, any such rule shall be final, subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of Title 28.

(4) The remedies provided for in this subsection shall be in addition to, and not in substitution for, any other remedies provided by law.

(5) The procedures applicable under this part shall not--

(A) be considered to be modified or affected by any other provision of law unless such other provision specifically amends this part (or provisions of law cited herein); or

(B) be considered to be superseded by any other provision of law unless such other provision does so in specific terms by referring to this part and declaring that such provision supersedes, in whole or in part, the procedures of this part.

**42 U.S.C. § 6316****§ 6313. Administration, penalties, enforcement, and preemption**

(a) The provisions of section 6296(a), (b), and (d) of this title, the provisions of subsections (l) through (s) of section 6295 of this title, and section 6297 through 6306 of this title shall apply with respect to this part (other than the equipment specified in subparagraphs (B), (C), (D), (I), (J), and (K) of section 6311(1) of this title) to the same extent and in the same manner as they apply in part B. In applying such provisions for the purposes of this part-

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(1) references to sections 6293, 6294, and 6295 of this title shall be considered as references to sections 6314, 6315, and 6313 of this title, respectively;

(2) references to “this part” shall be treated as referring to part A-1;

(3) the term “equipment” shall be substituted for the term “product”;

(4) the term “Secretary” shall be substituted for “Commission” each place it appears (other than in section 6303(c) of this title);

(5) section 6297(a) of this title shall be applied, in the case of electric motors, as if the National Appliance Energy Conservation Act of 1987 was the Energy Policy Act of 1992;

(6) section 6297(b)(1) of this title shall be applied as if electric motors were fluorescent lamp ballasts and as if the National Appliance Energy Conservation Amendments of 1988 were the Energy Policy Act of 1992;

(7) section 6297(b)(4) of this title shall be applied as if electric motors were fluorescent lamp ballasts and as if paragraph (5) of section 6295(g) of this title were section 6313 of this title;

(8) notwithstanding any other provision of law, a regulation or other requirement adopted by a State or subdivision of a State contained in a State or local building code for new construction concerning the energy efficiency or energy use of an electric motor covered under this part is not superseded by the standards for such electric motor established or prescribed under section 6313(b) of this title if such regulation or requirement is identical to the standards established or prescribed under such section;

(9) in the case of commercial clothes washers, section 6297(b)(1) of this title shall be applied as if the National Appliance Energy Conservation Act of 1987 was the Energy Policy Act of 2005; and

**(10)** section 6297 of this title shall apply with respect to the equipment described in section 6311(1)(L) of this title beginning on the date on which a final rule establishing an energy conservation standard is issued by the Secretary, except that any State or local standard prescribed or enacted for the equipment before the date on which the final rule is issued shall not be preempted until the energy conservation standard established by the Secretary for the equipment takes effect.

**(b)(1)** The provisions of section 6295(p)(4) of this title, section 6296(a), (b), and (d) of this title, section 6297(a) of this title, and sections 6298 through 6306 of this title shall apply with respect to the equipment specified in subparagraphs (B), (C), (D), (I), (J), and (K) of section 6311(1) of this title to the same extent and in the same manner as they apply in part B. In applying such provisions for the purposes of such equipment, paragraphs (1), (2), (3), and (4) of subsection (a) shall apply.

**(2)(A)** A standard prescribed or established under section 6313(a) of this title shall, beginning on the effective date of such standard, supersede any State or local regulation concerning the energy efficiency or energy use of a product for which a standard is prescribed or established pursuant to such section.

**(B)** Notwithstanding subparagraph (A), a standard prescribed or established under section 6313(a) of this title shall not supersede a standard for such a product contained in a State or local building code for new construction if--

**(i)** the standard in the building code does not require that the energy efficiency of such product exceed the applicable minimum energy efficiency requirement in amended ASHRAE/IES Standard 90.1; and

**(ii)** the standard in the building code does not take effect prior to the effective date of the applicable minimum energy efficiency requirement in amended ASHRAE/IES Standard 90.1.

**(C)** Notwithstanding subparagraph (A), a standard prescribed or established under section 6313(a) of this title shall not supersede the standards established by the State of California set forth in Table C-6, California Code of Regulations, Title 24, Part 2, Chapter 2-53, for water-source heat pumps below 135,000 Btu per hour (cooling capacity) that become effective on January 1, 1993.

**(D)** Notwithstanding subparagraph (A), a standard prescribed or established under section 6313(a) of this title shall not supersede a State regulation which has been granted a waiver by the Secretary. The Secretary may grant a waiver pursuant to the terms, conditions, criteria, procedures, and other requirements specified in section 6297(d) of this title.

(c) With respect to any electric motor to which standards are applicable under section 6313(b) of this title, the Secretary shall require manufacturers to certify, through an independent testing or certification program nationally recognized in the United States, that such motor meets the applicable standard.

(d)(1) Except as provided in paragraphs (2) and (3), section 6297 of this title shall apply with respect to very large commercial package air conditioning and heating equipment to the same extent and in the same manner as section 6297 of this title applies under part B on August 8, 2005.

(2) Any State or local standard issued before August 8, 2005, shall not be preempted until the standards established under section 6313(a)(9) of this title take effect on January 1, 2010.

(e)(1)(A) Subsections (a), (b), and (d) of section 6296 of this title, subsections (m) through (s) of section 6295 of this title, and sections 6298 through 6306 of this title shall apply with respect to commercial refrigerators, freezers, and refrigerator-freezers to the same extent and in the same manner as those provisions apply under part B.

(B) In applying those provisions to commercial refrigerators, freezers, and refrigerator-freezers, paragraphs (1), (2), (3), and (4) of subsection (a) shall apply.

(2)(A) Section 6297 of this title shall apply to commercial refrigerators, freezers, and refrigerator-freezers for which standards are established under paragraphs (2) and (3) of section 6313(c) of this title to the same extent and in the same manner as those provisions apply under part B on August 8, 2005, except that any State or local standard issued before August 8, 2005, shall not be preempted until the standards established under paragraphs (2) and (3) of section 6313(c) of this title take effect.

(B) In applying section 6297 of this title in accordance with subparagraph (A), paragraphs (1), (2), and (3) of subsection (a) shall apply.

(3)(A) Section 6297 of this title shall apply to commercial refrigerators, freezers, and refrigerator-freezers for which standards are established under section 6313(c)(4) of this title to the same extent and in the same manner as the provisions apply under part B on the date of publication of the final rule by the Secretary, except that any State or local standard issued before the date of publication of the final rule by the Secretary shall not be preempted until the standards take effect.

(B) In applying section 6297 of this title in accordance with subparagraph (A), paragraphs (1), (2), and (3) of subsection (a) shall apply.

**(4)(A)** If the Secretary does not issue a final rule for a specific type of commercial refrigerator, freezer, or refrigerator-freezer within the time frame specified in section 6313(c)(5) of this title, subsections (b) and (c) of section 6297 of this title shall not apply to that specific type of refrigerator, freezer, or refrigerator-freezer for the period beginning on the date that is 2 years after the scheduled date for a final rule and ending on the date on which the Secretary publishes a final rule covering the specific type of refrigerator, freezer, or refrigerator-freezer.

**(B)** Any State or local standard issued before the date of publication of the final rule shall not be preempted until the final rule takes effect.

**(5)(A)** In the case of any commercial refrigerator, freezer, or refrigerator-freezer to which standards are applicable under paragraphs (2) and (3) of section 6313(c) of this title, the Secretary shall require manufacturers to certify, through an independent, nationally recognized testing or certification program, that the commercial refrigerator, freezer, or refrigerator-freezer meets the applicable standard.

**(B)** The Secretary shall, to the maximum extent practicable, encourage the establishment of at least 2 independent testing and certification programs.

**(C)** As part of certification, information on equipment energy use and interior volume shall be made available to the Secretary.

**(f)(1)(A)(i)** Except as provided in clause (ii), section 6297 of this title shall apply to automatic commercial ice makers for which standards have been established under section 6313(d)(1) of this title to the same extent and in the same manner as the section applies under part B on August 8, 2005.

**(ii)** Any State standard issued before August 8, 2005, shall not be preempted until the standards established under section 6313(d)(1) of this title take effect.

**(B)** In applying section 6297 of this title to the equipment under subparagraph (A), paragraphs (1), (2), and (3) of subsection (a) shall apply.

**(2)(A)(i)** Except as provided in clause (ii), section 6297 of this title shall apply to automatic commercial ice makers for which standards have been established under section 6313(d)(2) of this title to the same extent and in the same manner as the section applies under part B on the date of publication of the final rule by the Secretary.

**(ii)** Any State standard issued before the date of publication of the final rule by the Secretary shall not be preempted until the standards established under section 6313(d)(2) of this title take effect.

(B) In applying section 6297 of this title in accordance with subparagraph (A), paragraphs (1), (2), and (3) of subsection (a) shall apply.

(3)(A) If the Secretary does not issue a final rule for a specific type of automatic commercial ice maker within the time frame specified in section 6313(d) of this title, subsections (b) and (c) of section 6297 of this title shall no longer apply to the specific type of automatic commercial ice maker for the period beginning on the day after the scheduled date for a final rule and ending on the date on which the Secretary publishes a final rule covering the specific type of automatic commercial ice maker.

(B) Any State standard issued before the publication of the final rule shall not be preempted until the standards established in the final rule take effect.

(4)(A) The Secretary shall monitor whether manufacturers are reducing harvest rates below tested values for the purpose of bringing non-complying equipment into compliance.

(B) If the Secretary finds that there has been a substantial amount of manipulation with respect to harvest rates under subparagraph (A), the Secretary shall take steps to minimize the manipulation, such as requiring harvest rates to be within 5 percent of tested values.

(g)(1)(A) If the Secretary does not issue a final rule for commercial clothes washers within the timeframe specified in section 6313(e)(2) of this title, subsections (b) and (c) of section 6297 of this title shall not apply to commercial clothes washers for the period beginning on the day after the scheduled date for a final rule and ending on the date on which the Secretary publishes a final rule covering commercial clothes washers.

(B) Any State or local standard issued before the date on which the Secretary publishes a final rule shall not be preempted until the standards established under section 6313(e)(2) of this title take effect.

(2) The Secretary shall undertake an educational program to inform owners of laundromats, multifamily housing, and other sites where commercial clothes washers are located about the new standard, including impacts on washer purchase costs and options for recovering those costs through coin collection.

#### **(h) Walk-in coolers and walk-in freezers**

##### **(1) Covered types**

##### **(A) Relationship to other law**

##### **(i) In general**



Except as otherwise provided in this subsection, section 6297 of this title shall apply to walk-in coolers and walk-in freezers for which standards have been established under paragraphs (1), (2), and (3) of section 6313(f) of this title to the same extent and in the same manner as the section applies under part B on December 19, 2007.

**(ii) State standards**

Any State standard prescribed before December 19, 2007, shall not be preempted until the standards established under paragraphs (1) and (2) of section 6313(f) of this title take effect.

**(B) Administration**

In applying section 6297 of this title to equipment under subparagraph (A), paragraphs (1), (2), and (3) of subsection (a) shall apply.

**(2) Final rule not timely**

**(A) In general**

If the Secretary does not issue a final rule for a specific type of walk-in cooler or walk-in freezer within the timeframe established under paragraph (4) or (5) of section 6313(f) of this title, subsections (b) and (c) of section 6297 of this title shall no longer apply to the specific type of walk-in cooler or walk-in freezer during the period--

(i) beginning on the day after the scheduled date for a final rule; and

(ii) ending on the date on which the Secretary publishes a final rule covering the specific type of walk-in cooler or walk-in freezer.

**(B) State standards**

Any State standard issued before the publication of the final rule shall not be preempted until the standards established in the final rule take effect.

**(3) California**

Any standard issued in the State of California before January 1, 2011, under title 20 of the California Code of Regulations, that refers to walk-in coolers and walk-in freezers, for which standards have been established under paragraphs (1), (2), and (3) of section 6313(f) of this title, shall not be preempted until the standards established under section 6313(f)(4) of this title take effect.

**42 U.S.C. § 6313****§ 6313. Standards**

**(a) Small, large, and very large commercial package air conditioning and heating equipment, packaged terminal air conditioners and heat pumps, warm-air furnaces, packaged boilers, storage water heaters, instantaneous water heaters, and unfired hot water storage tanks**

**(1)** Each small commercial package air conditioning and heating equipment (including single package vertical air conditioners and single package vertical heat pumps) manufactured on or after January 1, 1994, shall meet the following standard levels:

**(A)** The minimum seasonal energy efficiency ratio of air-cooled three-phase electric central air conditioners and central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), split systems, shall be 10.0.

**(B)** The minimum seasonal energy efficiency ratio of air-cooled three-phase electric central air conditioners and central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), single package, shall be 9.7.

**(C)** The minimum energy efficiency ratio of air-cooled central air conditioners and central air conditioning heat pumps at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be 8.9 (at a standard rating of 95 degrees F db).

**(D)** The minimum heating seasonal performance factor of air-cooled three-phase electric central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), split systems, shall be 6.8.

**(E)** The minimum heating seasonal performance factor of air-cooled three-phase electric central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), single package, shall be 6.6.

**(F)** The minimum coefficient of performance in the heating mode of air-cooled central air conditioning heat pumps at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be 3.0 (at a high temperature rating of 47 degrees F db).

**(G)** The minimum energy efficiency ratio of water-cooled, evaporatively-cooled and water-source central air conditioners and central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity) shall be 9.3 (at a standard rating of 95 degrees F

db, outdoor temperature for evaporatively cooled equipment, and 85 degrees Fahrenheit entering water temperature for water-source and water-cooled equipment).

**(H)** The minimum energy efficiency ratio of water-cooled, evaporatively-cooled and water-source central air conditioners and central air conditioning heat pumps at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be 10.5 (at a standard rating of 95 degrees F db, outdoor temperature for evaporatively cooled equipment, and 85 degrees Fahrenheit entering water temperature for water source and water-cooled equipment).

**(I)** The minimum coefficient of performance in the heating mode of water-source heat pumps less than 135,000 Btu per hour (cooling capacity) shall be 3.8 (at a standard rating of 70 degrees Fahrenheit entering water).

**(2)** Each large commercial package air conditioning and heating equipment (including single package vertical air conditioners and single package vertical heat pumps) manufactured on or after January 1, 1995, but before January 1, 2010, shall meet the following standard levels:

**(A)** The minimum energy efficiency ratio of air-cooled central air conditioners and central air conditioning heat pumps at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be 8.5 (at a standard rating of 95 degrees F db).

**(B)** The minimum coefficient of performance in the heating mode of air-cooled central air conditioning heat pumps at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be 2.9.

**(C)** The minimum energy efficiency ratio of water- and evaporatively-cooled central air conditioners and central air conditioning heat pumps at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be 9.6 (according to ARI Standard 360-86).

**(3)** Each packaged terminal air conditioner and packaged terminal heat pump manufactured on or after January 1, 1994, shall meet the following standard levels:

**(A)** The minimum energy efficiency ratio (EER) of packaged terminal air conditioners and packaged terminal heat pumps in the cooling mode shall be  $10.0 - (0.16 \times \text{Capacity})$  [in thousands of Btu per hour at a standard rating of 95 degrees F db, outdoor temperature]]. If a unit has a capacity of less than 7,000 Btu per hour, then 7,000 Btu per hour shall be used in the calculation. If a unit has a capacity of greater than 15,000 Btu per hour, then 15,000 Btu per hour shall be used in the calculation.

(B) The minimum coefficient of performance (COP) of packaged terminal heat pumps in the heating mode shall be  $1.3 + (0.16 \times \text{the minimum cooling EER as specified in subparagraph (A)})$  (at a standard rating of 47 degrees F db).

(4) Each warm air furnace and packaged boiler manufactured on or after January 1, 1994, shall meet the following standard levels:

(A) The minimum thermal efficiency at the maximum rated capacity of gas-fired warm-air furnaces with capacity of 225,000 Btu per hour or more shall be 80 percent.

(B) The minimum thermal efficiency at the maximum rated capacity of oil-fired warm-air furnaces with capacity of 225,000 Btu per hour or more shall be 81 percent.

(C) The minimum combustion efficiency at the maximum rated capacity of gas-fired packaged boilers with capacity of 300,000 Btu per hour or more shall be 80 percent.

(D) The minimum combustion efficiency at the maximum rated capacity of oil-fired packaged boilers with capacity of 300,000 Btu per hour or more shall be 83 percent.

(5) Each storage water heater, instantaneous water heater, and unfired water storage tank manufactured on or after January 1, 1994, shall meet the following standard levels:

(A) Except as provided in subparagraph (G), the maximum standby loss, in percent per hour, of electric storage water heaters shall be  $0.30 + (27/\text{Measured Storage Volume [in gallons]})$ .

(B) Except as provided in subparagraph (G), the maximum standby loss, in percent per hour, of gas- and oil-fired storage water heaters with input ratings of 155,000 Btu per hour or less shall be  $1.30 + (114/\text{Measured Storage Volume [in gallons]})$ . The minimum thermal efficiency of such units shall be 78 percent.

(C) Except as provided in subparagraph (G), the maximum standby loss, in percent per hour, of gas- and oil-fired storage water heaters with input ratings of more than 155,000 Btu per hour shall be  $1.30 + (95/\text{Measured Storage Volume [in gallons]})$ . The minimum thermal efficiency of such units shall be 78 percent.

(D) The minimum thermal efficiency of instantaneous water heaters with a storage volume of less than 10 gallons shall be 80 percent.

(E) Except as provided in subparagraph (G), the minimum thermal efficiency of instantaneous water heaters with a storage volume of 10 gallons or more shall be 77 percent. The maximum standby loss, in percent/hour, of such units shall be  $2.30 + (67/\text{Measured Storage Volume [in gallons]})$ .

(F) Except as provided in subparagraph (G), the maximum heat loss of unfired hot water storage tanks shall be 6.5 Btu per hour per square foot of tank surface area.

(G) Storage water heaters and hot water storage tanks having more than 140 gallons of storage capacity need not meet the standby loss or heat loss requirements specified in subparagraphs (A) through (C) and subparagraphs (E) and (F) if the tank surface area is thermally insulated to R-12.5 and if a standing pilot light is not used.

**(6) Amended energy efficiency standards**

**(A) In general**

**(i) Analysis of potential energy savings**

If ASHRAE/IES Standard 90.1 is amended with respect to the standard levels or design requirements applicable under that standard to any small commercial package air conditioning and heating equipment, large commercial package air conditioning and heating equipment, very large commercial package air conditioning and heating equipment, packaged terminal air conditioners, packaged terminal heat pumps, warm-air furnaces, packaged boilers, storage water heaters, instantaneous water heaters, or unfired hot water storage tanks, not later than 180 days after the amendment of the standard, the Secretary shall publish in the Federal Register for public comment an analysis of the energy savings potential of amended energy efficiency standards.

**(ii) Amended uniform national standard for products**

**(I) In general**

Except as provided in subclause (II), not later than 18 months after the date of publication of the amendment to the ASHRAE/IES Standard 90.1 for a product described in clause (i), the Secretary shall establish an amended uniform national standard for the product at the minimum level specified in the amended ASHRAE/IES Standard 90.1.

**(II) More stringent standard**

Subclause (I) shall not apply if the Secretary determines, by rule published in the Federal Register, and supported by clear and convincing evidence, that adoption of a uniform national standard more stringent than the amended ASHRAE/IES Standard 90.1 for the product would result in significant additional conservation of energy and is technologically feasible and economically justified.

**(B) Rule**

**(i) In general**

If the Secretary makes a determination described in subparagraph (A)(ii)(II) for a product described in subparagraph (A)(i), not later than 30 months after the date of publication of the amendment to the ASHRAE/IES Standard 90.1 for the product, the Secretary shall issue the rule establishing the amended standard.

**(ii) Factors**

In determining whether a standard is economically justified for the purposes of subparagraph (A)(ii)(II), the Secretary shall, after receiving views and comments furnished with respect to the proposed standard, determine whether the benefits of the standard exceed the burden of the proposed standard by, to the maximum extent practicable, considering--

(I) the economic impact of the standard on the manufacturers and on the consumers of the products subject to the standard;

(II) the savings in operating costs throughout the estimated average life of the product in the type (or class) compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the products that are likely to result from the imposition of the standard;

(III) the total projected quantity of energy savings likely to result directly from the imposition of the standard;

(IV) any lessening of the utility or the performance of the products likely to result from the imposition of the standard;

(V) the impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard;

(VI) the need for national energy conservation; and

(VII) other factors the Secretary considers relevant.

**(iii) Administration****(I) Energy use and efficiency**

The Secretary may not prescribe any amended standard under this paragraph that increases the maximum allowable energy use, or decreases the minimum required energy efficiency, of a covered product.

**(II) Unavailability**

**(aa) In general**

The Secretary may not prescribe an amended standard under this subparagraph if the Secretary finds (and publishes the finding) that interested persons have established by a preponderance of the evidence that a standard is likely to result in the unavailability in the United States in any product type (or class) of performance characteristics (including reliability, features, sizes, capacities, and volumes) that are substantially the same as those generally available in the United States at the time of the finding of the Secretary.

**(bb) Other types or classes**

The failure of some types (or classes) to meet the criterion established under this subclause shall not affect the determination of the Secretary on whether to prescribe a standard for the other types or classes.

**(C) Amendment of standard****(i) In general**

Every 6 years, the Secretary shall conduct an evaluation of each class of covered equipment and shall publish--

(I) a notice of the determination of the Secretary that standards for the product do not need to be amended, based on the criteria established under subparagraph (A); or

(II) a notice of proposed rulemaking including new proposed standards based on the criteria and procedures established under subparagraph (B).

**(ii) Notice**

If the Secretary publishes a notice under clause (i), the Secretary shall--

(I) publish a notice stating that the analysis of the Department is publicly available; and

(II) provide an opportunity for written comment.

**(iii) Amendment of standard; new determination****(I) Amendment of standard**

Not later than 2 years after a notice is issued under clause (i)(II), the Secretary shall publish a final rule amending the standard for the product.



**(II) New determination**

Not later than 3 years after a determination under clause (i)(I), the Secretary shall make a new determination and publication under subclause (I) or (II) of clause (i).

**(iv) Application to products**

Notwithstanding subparagraph (D), an amendment prescribed under this subparagraph shall apply to products manufactured after a date that is the later of-

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**(I)** the date that is 3 years after publication of the final rule establishing a new standard; or

**(II)** the date that is 6 years after the effective date of the current standard for a covered product.

**(v) Consideration of prices and operating patterns**

If the Secretary is considering revised standards for air-cooled 3-phase central air conditioners and central air conditioning heat pumps with less<sup>1</sup> 65,000 Btu per hour (cooling capacity), the Secretary shall use commercial energy prices and operating patterns in all analyses conducted by the Secretary.

**(vi)** For any covered equipment as to which more than 6 years has elapsed since the issuance of the most recent final rule establishing or amending a standard for the product as of December 18, 2012, the first notice required under clause (i) shall be published by December 31, 2013.

**(D)** A standard amended by the Secretary under this paragraph shall become effective for products manufactured--

**(i)** with respect to small commercial package air conditioning and heating equipment, packaged terminal air conditioners, packaged terminal heat pumps, warm-air furnaces, packaged boilers, storage water heaters, instantaneous water heaters, and unfired hot water storage tanks, on or after a date which is two years after the effective date of the applicable minimum energy efficiency requirement in the amended ASHRAE/IES standard referred to in subparagraph (A); and

**(ii)** with respect to large commercial package air conditioning and heating equipment and very large commercial package air conditioning and heating equipment, on or after a date which is three years after the effective date of the applicable minimum energy efficiency requirement in the amended ASHRAE/IES standard referred to in subparagraph (A);



except that an energy conservation standard amended by the Secretary pursuant to a rule under subparagraph (B) shall become effective for products manufactured on or after a date which is four years after the date such rule is published in the Federal Register.

(7) Small commercial package air conditioning and heating equipment (other than single package vertical air conditioners and single package vertical heat pumps) shall meet the following standards:

(A) For equipment manufactured on or after January 1, 2010, the minimum energy efficiency ratio of air-cooled central air conditioners at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be--

(i) 11.2 for equipment with no heating or electric resistance heating; and

(ii) 11.0 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

(B) For equipment manufactured on or after January 1, 2010, the minimum energy efficiency ratio of air-cooled central air conditioner heat pumps at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be--

(i) 11.0 for equipment with no heating or electric resistance heating; and

(ii) 10.8 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

(C) For equipment manufactured on or after January 1, 2010, the minimum coefficient of performance in the heating mode of air-cooled central air conditioning heat pumps at or above 65,000 Btu per hour (cooling capacity) and less than 135,000 Btu per hour (cooling capacity) shall be 3.3 (at a high temperature rating of 47 degrees F db).

(D) For equipment manufactured on or after the later of January 1, 2008, or the date that is 180 days after December 19, 2007--

(i) the minimum seasonal energy efficiency ratio of air-cooled 3-phase electric central air conditioners and central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), split systems, shall be 13.0;

(ii) the minimum seasonal energy efficiency ratio of air-cooled 3-phase electric central air conditioners and central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), single package, shall be 13.0;

(iii) the minimum heating seasonal performance factor of air-cooled 3-phase electric central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), split systems, shall be 7.7; and

(iv) the minimum heating seasonal performance factor of air-cooled 3-phase electric central air conditioning heat pumps less than 65,000 Btu per hour (cooling capacity), single package, shall be 7.7.

(8) Large commercial package air conditioning and heating equipment (other than single package vertical air conditioners and single package vertical heat pumps) manufactured on or after January 1, 2010, shall meet the following standards:

(A) The minimum energy efficiency ratio of air-cooled central air conditioners at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be--

(i) 11.0 for equipment with no heating or electric resistance heating; and

(ii) 10.8 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

(B) The minimum energy efficiency ratio of air-cooled central air conditioner heat pumps at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be--

(i) 10.6 for equipment with no heating or electric resistance heating; and

(ii) 10.4 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

(C) The minimum coefficient of performance in the heating mode of air-cooled central air conditioning heat pumps at or above 135,000 Btu per hour (cooling capacity) and less than 240,000 Btu per hour (cooling capacity) shall be 3.2 (at a high temperature rating of 47 degrees F db).

(9) Very large commercial package air conditioning and heating equipment (other than single package vertical air conditioners and single package vertical heat pumps) manufactured on or after January 1, 2010, shall meet the following standards:

(A) The minimum energy efficiency ratio of air-cooled central air conditioners at or above 240,000 Btu per hour (cooling capacity) and less than 760,000 Btu per hour (cooling capacity) shall be--

(i) 10.0 for equipment with no heating or electric resistance heating; and

(ii) 9.8 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

**(B)** The minimum energy efficiency ratio of air-cooled central air conditioner heat pumps at or above 240,000 Btu per hour (cooling capacity) and less than 760,000 Btu per hour (cooling capacity) shall be--

(i) 9.5 for equipment with no heating or electric resistance heating; and

(ii) 9.3 for equipment with all other heating system types that are integrated into the equipment (at a standard rating of 95 degrees F db).

**(C)** The minimum coefficient of performance in the heating mode of air-cooled central air conditioning heat pumps at or above 240,000 Btu per hour (cooling capacity) and less than 760,000 Btu per hour (cooling capacity) shall be 3.2 (at a high temperature rating of 47 degrees F db).

**(10) Single package vertical air conditioners and single package vertical heat pumps**

**(A) In general**

Single package vertical air conditioners and single package vertical heat pumps manufactured on or after January 1, 2010, shall meet the following standards:

(i) The minimum energy efficiency ratio of single package vertical air conditioners less than 65,000 Btu per hour (cooling capacity), single-phase, shall be 9.0.

(ii) The minimum energy efficiency ratio of single package vertical air conditioners less than 65,000 Btu per hour (cooling capacity), 3-phase, shall be 9.0.

(iii) The minimum energy efficiency ratio of single package vertical air conditioners at or above 65,000 Btu per hour (cooling capacity) but less than 135,000 Btu per hour (cooling capacity), shall be 8.9.

(iv) The minimum energy efficiency ratio of single package vertical air conditioners at or above 135,000 Btu per hour (cooling capacity) but less than 240,000 Btu per hour (cooling capacity), shall be 8.6.

(v) The minimum energy efficiency ratio of single package vertical heat pumps less than 65,000 Btu per hour (cooling capacity), single-phase, shall be 9.0 and the minimum coefficient of performance in the heating mode shall be 3.0.

- (vi) The minimum energy efficiency ratio of single package vertical heat pumps less than 65,000 Btu per hour (cooling capacity), 3-phase, shall be 9.0 and the minimum coefficient of performance in the heating mode shall be 3.0.
- (vii) The minimum energy efficiency ratio of single package vertical heat pumps at or above 65,000 Btu per hour (cooling capacity) but less than 135,000 Btu per hour (cooling capacity), shall be 8.9 and the minimum coefficient of performance in the heating mode shall be 3.0.
- (viii) The minimum energy efficiency ratio of single package vertical heat pumps at or above 135,000 Btu per hour (cooling capacity) but less than 240,000 Btu per hour (cooling capacity), shall be 8.6 and the minimum coefficient of performance in the heating mode shall be 2.9.

**(B) Review**

Not later than 3 years after December 19, 2007, the Secretary shall review the most recently published ASHRAE/IES Standard 90.1 with respect to single package vertical air conditioners and single package vertical heat pumps in accordance with the procedures established under paragraph (6).

**(b) Electric motors**

(1) Except for definite purpose motors, special purpose motors, and those motors exempted by the Secretary under paragraph (2), each electric motor manufactured (alone or as a component of another piece of equipment) after the 60-month period beginning on October 24, 1992, or in the case of an electric motor which requires listing or certification by a nationally recognized safety testing laboratory, after the 84-month period beginning on October 24, 1992, shall have a nominal full load efficiency of not less than the following:

Nominal Full-Load Efficiency						
Number of poles	Open Motors			Closed Motors		
	6	4	2	6	4	2

## Motor Horsepower

1.....	80.0	82.5		80.0	82.5	75.5
1.5.....	84.0	84.0	82.5	85.5	84.0	82.5
2.....	85.5	84.0	84.0	86.5	84.0	84.0
3.....	86.5	86.5	84.0	87.5	87.5	85.5
5.....	87.5	87.5	85.5	87.5	87.5	87.5
7.5.....	88.5	88.5	87.5	89.5	89.5	88.5
10.....	90.2	89.5	88.5	89.5	89.5	89.5
15.....	90.2	91.0	89.5	90.2	91.0	90.2
20.....	91.0	91.0	90.2	90.2	91.0	90.2
25.....	91.7	91.7	91.0	91.7	92.4	91.0
30.....	92.4	92.4	91.0	91.7	92.4	91.0

40.....	93.0	93.0	91.7	93.0	93.0	91.7
50.....	93.0	93.0	92.4	93.0	93.0	92.4
60.....	93.6	93.6	93.0	93.6	93.6	93.0
75.....	93.6	94.1	93.0	93.6	94.1	93.0
100.....	94.1	94.1	93.0	94.1	94.5	93.6
125.....	94.1	94.5	93.6	94.1	94.5	94.5
150.....	94.5	95.0	93.6	95.0	95.0	94.5
200.....	94.5	95.0	94.5	95.0	95.0	95.0

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## **(2) Electric motors**

### **(A) General purpose electric motors (subtype I)**

Except as provided in subparagraph (B), each general purpose electric motor (subtype I) with a power rating of 1 horsepower or greater, but not greater than 200 horsepower, manufactured (alone or as a component of another piece of equipment) after the 3-year period beginning on December 19, 2007, shall have a nominal full load efficiency that is not less than as defined in NEMA MG-1 (2006) Table 12-12.

### **(B) Fire pump motors**

Each fire pump motor manufactured (alone or as a component of another piece of equipment) after the 3-year period beginning on December 19, 2007, shall have nominal full load efficiency that is not less than as defined in NEMA MG-1 (2006) Table 12-11.

**(C) General purpose electric motors (subtype II)**

Each general purpose electric motor (subtype II) with a power rating of 1 horsepower or greater, but not greater than 200 horsepower, manufactured (alone or as a component of another piece of equipment) after the 3-year period beginning on December 19, 2007, shall have a nominal full load efficiency that is not less than as defined in NEMA MG-1 (2006) Table 12-11.

**(D) NEMA Design B, general purpose electric motors**

Each NEMA Design B, general purpose electric motor with a power rating of more than 200 horsepower, but not greater than 500 horsepower, manufactured (alone or as a component of another piece of equipment) after the 3-year period beginning on December 19, 2007, shall have a nominal full load efficiency that is not less than as defined in NEMA MG-1 (2006) Table 12-11.

**(3)(A)** The Secretary may, by rule, provide that the standards specified in paragraph (1) shall not apply to certain types or classes of electric motors if--

**(i)** compliance with such standards would not result in significant energy savings because such motors cannot be used in most general purpose applications or are very unlikely to be used in most general purpose applications; and

**(ii)** standards for such motors would not be technologically feasible or economically justified.

**(B)** Not later than one year after October 24, 1992, a manufacturer seeking an exemption under this paragraph with respect to a type or class of electric motor developed on or before October 24, 1992, shall submit a petition to the Secretary requesting such exemption. Such petition shall include evidence that the type or class of motor meets the criteria for exemption specified in subparagraph (A).

**(C)** Not later than two years after October 24, 1992, the Secretary shall rule on each petition for exemption submitted pursuant to subparagraph (B). In making such ruling, the Secretary shall afford an opportunity for public comment.

**(D)** Manufacturers of types or classes of motors developed after October 24, 1992, to which standards under paragraph (1) would be applicable may petition the Secretary for exemptions from compliance with such standards based on the criteria specified in subparagraph (A).

(4)(A) The Secretary shall publish a final rule no later than the end of the 24-month period beginning on the effective date of the standards established under paragraph (1) to determine if such standards should be amended. Such rule shall provide that any amendment shall apply to electric motors manufactured on or after a date which is five years after the effective date of the standards established under paragraph (1).

(B) The Secretary shall publish a final rule no later than 24 months after the effective date of the previous final rule to determine whether to amend the standards in effect for such product. Any such amendment shall apply to electric motors manufactured after a date which is five years after--

(i) the effective date of the previous amendment; or

(ii) if the previous final rule did not amend the standards, the earliest date by which a previous amendment could have been effective.

**(c) Commercial refrigerators, freezers, and refrigerator-freezers**

(1) In this subsection:

(A) The term “AV” means the adjusted volume (ft<sup>3</sup>) (defined as 1.63 x frozen temperature compartment volume (ft<sup>3</sup>) + chilled temperature compartment volume (ft<sup>3</sup>)) with compartment volumes measured in accordance with the Association of Home Appliance Manufacturers Standard HRF1-1979.

(B) The term “V” means the chilled or frozen compartment volume (ft<sup>3</sup>) (as defined in the Association of Home Appliance Manufacturers Standard HRF1-1979).

(C) The term “service over the counter, self-contained, medium temperature commercial refrigerator” or “(SOC-SC-M)” means a medium temperature commercial refrigerator--

(i) with a self-contained condensing unit and equipped with sliding or hinged doors in the back intended for use by sales personnel, and with glass or other transparent material in the front for displaying merchandise; and

(ii) that has a height not greater than 66 inches and is intended to serve as a counter for transactions between sales personnel and customers.

(D) The term “TDA” means the total display area (ft<sup>2</sup>) of the refrigerated case, as defined in AHRI Standard 1200.

(E) Other terms have such meanings as may be established by the Secretary, based on industry-accepted definitions and practice.



(2) Each commercial refrigerator, freezer, and refrigerator-freezer with a self-contained condensing unit designed for holding temperature applications manufactured on or after January 1, 2010, shall have a daily energy consumption (in kilowatt hours per day) that does not exceed the following:

Refrigerators with solid doors .....  $0.10 V + 2.04$

Refrigerators with transparent doors .....  $0.12 V + 3.34$

Freezers with solid doors.....  $0.40 V + 1.38$

Freezers with transparent doors.....  $0.75 V + 4.10$

Refrigerators/freezers with solid doors the greater of .....  $0.27 AV - 0.71$  or  $0.70$ .

(3) Each commercial refrigerator with a self-contained condensing unit designed for pull-down temperature applications and transparent doors manufactured on or after January 1, 2010, shall have a daily energy consumption (in kilowatt hours per day) of not more than  $0.126 V + 3.51$ .

(4)(A) Each SOC-SC-M manufactured on or after January 1, 2012, shall have a total daily energy consumption (in kilowatt hours per day) of not more than  $0.6 \times TDA + 1.0$ .

(B) Not later than 3 years after December 18, 2012, the Secretary shall--

(i) determine whether the standard established under subparagraph (A) should be amended; and

(ii) if the Secretary determines that such standard should be amended, issue a final rule establishing an amended standard.

(C) If the Secretary issues a final rule pursuant to subparagraph (B) establishing an amended standard, the final rule shall provide that the amended standard shall apply to products manufactured on or after the date that is--

- (i) 3 years after the date on which the final amended standard is published; or
- (ii) if the Secretary determines, by rule, that 3 years is inadequate, not later than 5 years after the date on which the final rule is published.

**(5)(A)** Not later than January 1, 2009, the Secretary shall issue, by rule, standard levels for ice-cream freezers, self-contained commercial refrigerators, freezers, and refrigerator-freezers without doors, and remote condensing commercial refrigerators, freezers, and refrigerator-freezers, with the standard levels effective for equipment manufactured on or after January 1, 2012.

**(B)** The Secretary may issue, by rule, standard levels for other types of commercial refrigerators, freezers, and refrigerator-freezers not covered by paragraph (2)(A) with the standard levels effective for equipment manufactured 3 or more years after the date on which the final rule is published.

**(6)(A)** Not later than January 1, 2013, the Secretary shall issue a final rule to determine whether the standards established under this subsection should be amended.

**(B)** Not later than 3 years after the effective date of any amended standards under subparagraph (A) or the publication of a final rule determining that the standards should not be amended, the Secretary shall issue a final rule to determine whether the standards established under this subsection or the amended standards, as applicable, should be amended.

**(C)** If the Secretary issues a final rule under subparagraph (A) or (B) establishing amended standards, the final rule shall provide that the amended standards apply to products manufactured on or after the date that is--

- (i) 3 years after the date on which the final amended standard is published; or
- (ii) if the Secretary determines, by rule, that 3 years is inadequate, not later than 5 years after the date on which the final rule is published.

**(d) Automatic commercial ice makers**

**(1)** Each automatic commercial ice maker that produces cube type ice with capacities between 50 and 2500 pounds per 24-hour period when tested according to the test standard established in section 6314(a)(7) of this title and is manufactured on or after January 1, 2010, shall meet the following standard levels:

Equipment Type	Type of Cooling	Harvest Rate	Maximum Energy Use (kWh/100 lbs Ice)	Maximum Condenser Water Use (gal/100 lbs Ice)
		(lbs ice/24 hours)		
Ice Making Head	Water	<500	7.80-0.0055H	200-0.022H
		≥500 and <1436	5.58-0.0011H	200-0.022H
		≥1436	4.0	200-0.022H
Ice Making Head	Air	<450	10.26-0.0086H	Not Applicable
		≥450	6.89-0.0011H	Not Applicable
Remote Condensing (but not remote compressor)	Air	<1000	8.85-0.0038H	Not Applicable
		≥1000	5.10	Not Applicable
Remote Condensing and Remote Compressor	Air	<934	8.85-0.0038H	Not Applicable
		≥934	5.3	Not Applicable

Self Contained	Water	<200	11.40-0.019H	191-0.0315H
		≥200	7.60	191-0.0315H
Self Contained	Air	<175	18.0-0.0469H	Not Applicable
		≥175	9.80	Not Applicable

H=Harvest rate in pounds per 24 hours.

Water use is for the condenser only and does not include potable water used to make ice.

**(2)(A)** The Secretary may issue, by rule, standard levels for types of automatic commercial ice makers that are not covered by paragraph (1).

**(B)** The standards established under subparagraph (A) shall apply to products manufactured on or after the date that is--

**(i)** 3 years after the date on which the rule is published under subparagraph (A); or

**(ii)** if the Secretary determines, by rule, that 3 years is inadequate, not later than 5 years after the date on which the final rule is published.

**(3)(A)** Not later than January 1, 2015, with respect to the standards established under paragraph (1), and, with respect to the standards established under paragraph (2), not later than 5 years after the date on which the standards take effect, the Secretary shall issue a final rule to determine whether amending the applicable standards is technologically feasible and economically justified.

**(B)** Not later than 5 years after the effective date of any amended standards under subparagraph (A) or the publication of a final rule determining that amending the standards is not technologically feasible or economically justified, the Secretary shall issue a final rule to determine whether amending the standards established under paragraph (1) or the amended standards, as applicable, is technologically feasible or economically justified.

(C) If the Secretary issues a final rule under subparagraph (A) or (B) establishing amended standards, the final rule shall provide that the amended standards apply to products manufactured on or after the date that is--

(i) 3 years after the date on which the final amended standard is published; or

(ii) if the Secretary determines, by rule, that 3 years is inadequate, not later than 5 years after the date on which the final amended standard is published.

(4) A final rule issued under paragraph (2) or (3) shall establish standards at the maximum level that is technically feasible and economically justified, as provided in subsections (o) and (p) of section 6295 of this title.

**(e) Commercial clothes washers**

(1) Each commercial clothes washer manufactured on or after January 1, 2007, shall have--

(A) a Modified Energy Factor of at least 1.26; and

(B) a Water Factor of not more than 9.5.

(2)(A)(i) Not later than January 1, 2010, the Secretary shall publish a final rule to determine whether the standards established under paragraph (1) should be amended.

(ii) The rule published under clause (i) shall provide that any amended standard shall apply to products manufactured 3 years after the date on which the final amended standard is published.

(B)(i) Not later than January 1, 2015, the Secretary shall publish a final rule to determine whether the standards established under paragraph (1) should be amended.

(ii) The rule published under clause (i) shall provide that any amended standard shall apply to products manufactured 3 years after the date on which the final amended standard is published.

**(f) Walk-in coolers and walk-in freezers**

**(1) In general**

Subject to paragraphs (2) through (6), each walk-in cooler or walk-in freezer manufactured on or after January 1, 2009, shall--

(A) have automatic door closers that firmly close all walk-in doors that have been closed to within 1 inch of full closure, except that this subparagraph shall not apply to doors wider than 3 feet 9 inches or taller than 7 feet;

(B) have strip doors, spring hinged doors, or other method of minimizing infiltration when doors are open;

(C) contain wall, ceiling, and door insulation of at least R-25 for coolers and R-32 for freezers, except that this subparagraph shall not apply to glazed portions of doors nor to structural members;

(D) contain floor insulation of at least R-28 for freezers;

(E) for evaporator fan motors of under 1 horsepower and less than 460 volts, use--

(i) electronically commutated motors (brushless direct current motors); or

(ii) 3-phase motors;

(F) for condenser fan motors of under 1 horsepower, use--

(i) electronically commutated motors;

(ii) permanent split capacitor-type motors; or

(iii) 3-phase motors; and

(G) for all interior lights, use light sources with an efficacy of 40 lumens per watt or more, including ballast losses (if any), except that light sources with an efficacy of 40 lumens per watt or less, including ballast losses (if any), may be used in conjunction with a timer or device that turns off the lights within 15 minutes of when the walk-in cooler or walk-in freezer is not occupied by people.

## **(2) Electronically commutated motors**

### **(A) In general**

The requirements of paragraph (1)(E)(i) for electronically commutated motors shall take effect January 1, 2009, unless, prior to that date, the Secretary determines that such motors are only available from 1 manufacturer.

### **(B) Other types of motors**

In carrying out paragraph (1)(E)(i) and subparagraph (A), the Secretary may allow other types of motors if the Secretary determines that, on average, those other motors

use no more energy in evaporator fan applications than electronically commutated motors.

**(C) Maximum energy consumption level**

The Secretary shall establish the maximum energy consumption level under subparagraph (B) not later than January 1, 2010.

**(3) Additional specifications**

Each walk-in cooler or walk-in freezer with transparent reach-in doors manufactured on or after January 1, 2009, shall also meet the following specifications:

(A) Transparent reach-in doors for walk-in freezers and windows in walk-in freezer doors shall be of triple-pane glass with either heat-reflective treated glass or gas fill.

(B) Transparent reach-in doors for walk-in coolers and windows in walk-in cooler doors shall be--

(i) double-pane glass with heat-reflective treated glass and gas fill; or

(ii) triple-pane glass with either heat-reflective treated glass or gas fill.

(C) If the appliance has an antisweat heater without antisweat heat controls, the appliance shall have a total door rail, glass, and frame heater power draw of not more than 7.1 watts per square foot of door opening (for freezers) and 3.0 watts per square foot of door opening (for coolers).

(D) If the appliance has an antisweat heater with antisweat heat controls, and the total door rail, glass, and frame heater power draw is more than 7.1 watts per square foot of door opening (for freezers) and 3.0 watts per square foot of door opening (for coolers), the antisweat heat controls shall reduce the energy use of the antisweat heater in a quantity corresponding to the relative humidity in the air outside the door or to the condensation on the inner glass pane.

**(4) Performance-based standards**

**(A) In general**

Not later than January 1, 2012, the Secretary shall publish performance-based standards for walk-in coolers and walk-in freezers that achieve the maximum improvement in energy that the Secretary determines is technologically feasible and economically justified.

**(B) Application**

**(i) In general**

Except as provided in clause (ii), the standards shall apply to products described in subparagraph (A) that are manufactured beginning on the date that is 3 years after the final rule is published.

**(ii) Delayed effective date**

If the Secretary determines, by rule, that a 3-year period is inadequate, the Secretary may establish an effective date for products manufactured beginning on the date that is not more than 5 years after the date of publication of a final rule for the products.

**(5) Amendment of standards****(A) In general**

Not later than January 1, 2020, the Secretary shall publish a final rule to determine if the standards established under paragraph (4) should be amended.

**(B) Application****(i) In general**

Except as provided in clause (ii), the rule shall provide that the standards shall apply to products manufactured beginning on the date that is 3 years after the final rule is published.

**(ii) Delayed effective date**

If the Secretary determines, by rule, that a 3-year period is inadequate, the Secretary may establish an effective date for products manufactured beginning on the date that is not more than 5 years after the date of publication of a final rule for the products.

**(6) Innovative component technologies**

Subparagraph (C) of paragraph (1) shall not apply to a walk-in cooler or walk-in freezer component if the component manufacturer has demonstrated to the satisfaction of the Secretary that the component reduces energy consumption at least as much as if such subparagraph were to apply. In support of any demonstration under this paragraph, a manufacturer shall provide to the Secretary all data and technical information necessary to fully evaluate its application.

**(g) Lighting power supply circuits**



If the Secretary, acting pursuant to section 6312(b) of this title, includes as covered equipment solid state lighting power supply circuits, drivers, or devices described in section 6291(36)(A)(ii) of this title, the Secretary may prescribe under this part, not earlier than 1 year after the date on which a test procedure has been prescribed, an energy conservation standard for such equipment.

42 U.S.C. § 6295

§ 6295. Energy conservation standards

(a) Purposes

The purposes of this section are to--

- (1) provide Federal energy conservation standards applicable to covered products; and
- (2) authorize the Secretary to prescribe amended or new energy conservation standards for each type (or class) of covered product.

(b) Standards for refrigerators, refrigerator-freezers, and freezers

(1) The following is the maximum energy use allowed in kilowatt hours per year for the following products (other than those described in paragraph (2)) manufactured on or after January 1, 1990:

	Energy Standards Equations
Refrigerators and Refrigerator-Freezers with manual defrost .....	16.3 AV + 316
Refrigerator-Freezers--partial automatic defrost.....	21.8 AV + 429
Refrigerator-Freezers--automatic defrost with:	
Top mounted freezer without ice.....	23.5 AV + 471
Side mounted freezer without ice .....	27.7 AV + 488
Bottom mounted freezer without ice.....	27.7 AV + 488

Top mounted freezer with through the door ice service ..... 26.4 AV + 535

Side mounted freezer with through the door ice..... 30.9 AV + 547

Upright Freezers with:

Manual defrost..... 10.9 AV + 422

Automatic defrost..... 16.0 AV + 623

Chest Freezers and all other freezers..... 14.8 AV + 223

(2) The standards described in paragraph (1) do not apply to refrigerators and refrigerator-freezers with total refrigerated volume exceeding 39 cubic feet or freezers with total refrigerated volume exceeding 30 cubic feet.

(3)(A)(i) The Secretary shall publish a proposed rule, no later than July 1, 1988, to determine if the standards established by paragraph (1) should be amended. The Secretary shall publish a final rule no later than July 1, 1989, which shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 1993. If such a final rule is not published before January 1, 1990, any amendment of such standards shall apply to products manufactured on or after January 1, 1995. Nothing in this subsection provides any justification or defense for a failure by the Secretary to comply with the nondiscretionary duty to publish final rules by the dates stated in this paragraph.

(ii)(I) If the Secretary does not publish a final rule before January 1, 1990, relating to the revision of the energy conservation standards for refrigerators, refrigerator-freezers and freezers, the regulations which established standards for such products and were promulgated by the California Energy Commission on December 14, 1984, to be effective January 1, 1992 (or any amendments to such standards that are not more stringent than the standards in the original regulations), shall apply in California to such products,

effective beginning January 1, 1993, and shall not be preempted after such effective date by any energy conservation standard established in this section or prescribed, on or after January 1, 1990, under this section.

(II) If the Secretary does not publish a final rule before January 1, 1992, relating to the revision of the energy conservation standards for refrigerators, refrigerator-freezers and freezers, State regulations which apply to such products manufactured on or after January 1, 1995, shall apply to such products until the effective date of a rule issued under this section with respect to such products.

(B) After the publication of a final rule under subparagraph (A), the Secretary shall publish a final rule no later than five years after the date of publication of the previous final rule. The Secretary shall determine in such rule whether to amend the standards in effect for the products described in paragraph (1).

(C) Any amendment prescribed under subparagraph (B) shall apply to products manufactured after a date which is five years after--

(i) the effective date of the previous amendment; or

(ii) if the previous final rule did not amend the standards, the earliest date by which the previous amendment could have been effective;

except that in no case may any amended standard apply to products manufactured within three years after publication of the final rule establishing such amended standard.

#### **(4) Refrigerators and freezers manufactured on or after January 1, 2014**

##### **(A) In general**

Not later than December 31, 2010, the Secretary shall publish a final rule determining whether to amend the standards in effect for refrigerators, refrigerator-freezers, and freezers manufactured on or after January 1, 2014.

##### **(B) Amended standards**

The final rule shall contain any amended standards.

##### **(c) Standards for room air conditioners**

(1) The energy efficiency ratio of room air conditioners shall be not less than the following for products manufactured on or after January 1, 1990:

Product Class:

Ratio

Without Reverse Cycle and With Louvered Sides:

Less than 6,000 Btu .....	8.0
6,000 to 7,999 Btu .....	8.5
8,000 to 13,999 Btu .....	9.0
14,000 to 19,999 Btu .....	8.8
20,000 and more Btu.....	8.2

Without Reverse Cycle and Without Louvered Sides:

Less than 6,000 Btu .....	8.0
6,000 to 7,999 Btu .....	8.5
8,000 to 13,999 Btu .....	8.5
14,000 to 19,999 Btu .....	8.5
20,000 and more Btu.....	8.2

With Reverse Cycle and With Louvered Sides .....	8.5
With Reverse Cycle, Without Louvered Sides .....	8.0

**(2)(A)** The Secretary shall publish a final rule no later than January 1, 1992, to determine if the standards established under paragraph (1) should be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 1995.

**(B)** After January 1, 1992, the Secretary shall publish a final rule no later than five years after the date of publication of a previous final rule. The Secretary shall determine in such rule whether to amend the standards in effect for room air conditioners.

**(C)** Any amendment prescribed under subparagraph (B) shall apply to products manufactured after a date which is five years after--

**(i)** the effective date of the previous amendment; or

**(ii)** if the previous final rule did not amend the standards, the earliest date by which a previous amendment could have been effective;

except that in no case may any amended standard apply to products manufactured within three years after publication of the final rule establishing such amended standard.

**(d) Standards for central air conditioners and heat pumps**

**(1)** The seasonal energy efficiency ratio of central air conditioners and central air conditioning heat pumps shall be not less than the following:

**(A)** Split Systems: 10.0 for products manufactured on or after January 1, 1992.

**(B)** Single Package Systems: 9.7 for products manufactured on or after January 1, 1993.

**(2)** The heating seasonal performance factor of central air conditioning heat pumps shall be not less than the following:

**(A)** Split Systems: 6.8 for products manufactured on or after January 1, 1992.

**(B)** Single Package Systems: 6.6 for products manufactured on or after January 1, 1993.

(3)(A) The Secretary shall publish a final rule no later than January 1, 1994, to determine whether the standards established under paragraph (1) should be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 1999. The Secretary shall publish a final rule no later than January 1, 1994, to determine whether the standards established under paragraph (2) shall be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 2002.

(B) The Secretary shall publish a final rule after January 1, 1994, and no later than January 1, 2001, to determine whether the standards in effect for central air conditioners and central air conditioning heat pumps should be amended. Such rule shall provide that any amendment shall apply to products manufactured on or after January 1, 2006.

**(4) Standards for through-the-wall central air conditioners, through-the-wall central air conditioning heat pumps, and small duct, high velocity systems**

**(A) Definitions**

In this paragraph:

**(i) Small duct, high velocity system**

The term “small duct, high velocity system” means a heating and cooling product that contains a blower and indoor coil combination that--

(I) is designed for, and produces, at least 1.2 inches of external static pressure when operated at the certified air volume rate of 220-350 CFM per rated ton of cooling; and

(II) when applied in the field, uses high velocity room outlets generally greater than 1,000 fpm that have less than 6.0 square inches of free area.

**(ii) Through-the-wall central air conditioner; through-the-wall central air conditioning heat pump**

The terms “through-the-wall central air conditioner” and “through-the-wall central air conditioning heat pump” mean a central air conditioner or heat pump, respectively, that is designed to be installed totally or partially within a fixed-size opening in an exterior wall, and--

(I) is not weatherized;

(II) is clearly and permanently marked for installation only through an exterior wall;

(III) has a rated cooling capacity no greater than 30,000 Btu/hr;

(IV) exchanges all of its outdoor air across a single surface of the equipment cabinet; and

(V) has a combined outdoor air exchange area of less than 800 square inches (split systems) or less than 1,210 square inches (single packaged systems) as measured on the surface area described in subclause (IV).

**(iii) Revision**

The Secretary may revise the definitions contained in this subparagraph through publication of a final rule.

**(B) Small-duct high-velocity systems**

**(i) Seasonal energy efficiency ratio**

The seasonal energy efficiency ratio for small-duct high-velocity systems shall be not less than--

(I) 11.00 for products manufactured on or after January 23, 2006; and

(II) 12.00 for products manufactured on or after January 1, 2015.

**(ii) Heating seasonal performance factor**

The heating seasonal performance factor for small-duct high-velocity systems shall be not less than--

(I) 6.8 for products manufactured on or after January 23, 2006; and

(II) 7.2 for products manufactured on or after January 1, 2015.

**(C) Subsequent rulemakings**

The Secretary shall conduct subsequent rulemakings for through-the-wall central air conditioners, through-the-wall central air conditioning heat pumps, and small duct, high velocity systems as part of any rulemaking under this section used to review or revise standards for other central air conditioners and heat pumps.

**(e) Standards for water heaters; pool heaters; direct heating equipment**



(1) The energy factor of water heaters shall be not less than the following for products manufactured on or after January 1, 1990:

(A) Gas Water Heater:  $.62 - (.0019 \times \text{Rated Storage Volume in gallons})$

(B) Oil Water Heater:  $.59 - (.0019 \times \text{Rated Storage Volume in gallons})$

(C) Electric Water Heater:  $.95 - (.00132 \times \text{Rated Storage Volume in gallons})$

(2) The thermal efficiency of pool heaters manufactured on or after January 1, 1990, shall not be less than 78 percent.

(3) The efficiencies of gas direct heating equipment manufactured on or after January 1, 1990, shall be not less than the following:

Wall

Fan type

Up to 42,000 Btu/hour ..... 73% AFUE

Over 42,000 Btu/hour ..... 74% AFUE

Gravity type

Up to 10,000 Btu/hour ..... 59% AFUE

Over 10,000 Btu/hour up to 12,000 Btu/hour ..... 60% AFUE

Over 12,000 Btu/hour up to 15,000 Btu/hour ..... 61% AFUE

Over 15,000 Btu/hour up to 19,000 Btu/hour ..... 62% AFUE

Over 19,000 Btu/hour up to 27,000 Btu/hour ..... 63% AFUE

Over 27,000 Btu/hour up to 46,000 Btu/hour ..... 64% AFUE

Over 46,000 Btu/hour ..... 65% AFUE

Floor

Up to 37,000 Btu/hour ..... 56% AFUE

Over 37,000 Btu/hour ..... 57% AFUE

Room

Up to 18,000 Btu/hour ..... 57% AFUE

Over 18,000 Btu/hour up to 20,000 Btu/hour ..... 58% AFUE

Over 20,000 Btu/hour up to 27,000 Btu/hour ..... 63% AFUE

Over 27,000 Btu/hour up to 46,000 Btu/hour ..... 64% AFUE

Over 46,000 Btu/hour ..... 65% AFUE

**(4)(A)** The Secretary shall publish final rules no later than January 1, 1992, to determine whether the standards established by paragraph (1), (2), or (3) for water heaters, pool

heaters, and direct heating equipment should be amended. Such rule shall provide that any amendment shall apply to products manufactured on or after January 1, 1995.

**(B)** The Secretary shall publish a final rule no later than January 1, 2000, to determine whether standards in effect for such products should be amended. Such rule shall provide that any such amendment shall apply to products manufactured on or after January 1, 2005.

**(5) Uniform efficiency descriptor for covered water heaters**

**(A) Definitions**

In this paragraph:

**(i) Covered water heater**

The term “covered water heater” means--

**(I)** a water heater; and

**(II)** a storage water heater, instantaneous water heater, and unfired hot water storage tank (as defined in section 6311 of this title).

**(ii) Final rule**

The term “final rule” means the final rule published under this paragraph.

**(B) Publication of final rule**

Not later than 1 year after December 18, 2012, the Secretary shall publish a final rule that establishes a uniform efficiency descriptor and accompanying test methods for covered water heaters.

**(C) Purpose**

The purpose of the final rule shall be to replace with a uniform efficiency descriptor--

**(i)** the energy factor descriptor for water heaters established under this subsection; and

**(ii)** the thermal efficiency and standby loss descriptors for storage water heaters, instantaneous water heaters, and unfired water storage tanks established under section 6313(a)(5) of this title.

**(D) Effect of final rule**

**(i) In general**

Notwithstanding any other provision of this subchapter, effective beginning on the effective date of the final rule, the efficiency standard for covered water heaters shall be denominated according to the efficiency descriptor established by the final rule.

**(ii) Effective date**

The final rule shall take effect 1 year after the date of publication of the final rule under subparagraph (B).

**(E) Conversion factor****(i) In general**

The Secretary shall develop a mathematical conversion factor for converting the measurement of efficiency for covered water heaters from the test procedures in effect on December 18, 2012, to the new energy descriptor established under the final rule.

**(ii) Application**

The conversion factor shall apply to models of covered water heaters affected by the final rule and tested prior to the effective date of the final rule.

**(iii) Effect on efficiency requirements**

The conversion factor shall not affect the minimum efficiency requirements for covered water heaters otherwise established under this subchapter.

**(iv) Use**

During the period described in clause (v), a manufacturer may apply the conversion factor established by the Secretary to rerate existing models of covered water heaters that are in existence prior to the effective date of the rule described in clause (v)(II) to comply with the new efficiency descriptor.

**(v) Period**

Clause (iv) shall apply during the period--

**(I)** beginning on the date of publication of the conversion factor in the Federal Register; and

**(II)** ending on the later of 1 year after the date of publication of the conversion factor, or December 31, 2015.

**(F) Exclusions**

The final rule may exclude a specific category of covered water heaters from the uniform efficiency descriptor established under this paragraph if the Secretary determines that the category of water heaters--

- (i) does not have a residential use and can be clearly described in the final rule; and
- (ii) are<sup>1</sup> effectively rated using the thermal efficiency and standby loss descriptors applied (as of December 18, 2012) to the category under section 6313(a)(5) of this title.

**(G) Options**

The descriptor set by the final rule may be--

- (i) a revised version of the energy factor descriptor in use as of December 18, 2012;
- (ii) the thermal efficiency and standby loss descriptors in use as of that date;
- (iii) a revised version of the thermal efficiency and standby loss descriptors;
- (iv) a hybrid of descriptors; or
- (v) a new approach.

**(H) Application**

The efficiency descriptor and accompanying test method established under the final rule shall apply, to the maximum extent practicable, to all water heating technologies in use as of December 18, 2012, and to future water heating technologies.

**(I) Participation**

The Secretary shall invite interested stakeholders to participate in the rulemaking process used to establish the final rule.

**(J) Testing of alternative descriptors**

In establishing the final rule, the Secretary shall contract with the National Institute of Standards and Technology, as necessary, to conduct testing and simulation of alternative descriptors identified for consideration.

**(K) Existing covered water heaters**

A covered water heater shall be considered to comply with the final rule on and after the effective date of the final rule and with any revised labeling requirements established by the Federal Trade Commission to carry out the final rule if the covered water heater--

- (i) was manufactured prior to the effective date of the final rule; and
- (ii) complied with the efficiency standards and labeling requirements in effect prior to the final rule.

**(6) Additional standards for grid-enabled water heaters**

**(A) Definitions**

In this paragraph:

**(i) Activation lock**

The term “activation lock” means a control mechanism (either a physical device directly on the water heater or a control system integrated into the water heater) that is locked by default and contains a physical, software, or digital communication that must be activated with an activation key to enable the product to operate at its designed specifications and capabilities and without which activation the product will provide not greater than 50 percent of the rated first hour delivery of hot water certified by the manufacturer.

**(ii) Grid-enabled water heater**

The term “grid-enabled water heater” means an electric resistance water heater that--

- (I) has a rated storage tank volume of more than 75 gallons;
- (II) is manufactured on or after April 16, 2015;
- (III) has--
  - (aa) an energy factor of not less than 1.061 minus the product obtained by multiplying--
  - (AA) the rated storage volume of the tank, expressed in gallons; and
  - (BB) 0.00168; or
  - (bb) an equivalent alternative standard prescribed by the Secretary and developed pursuant to paragraph (5)(E);

(IV) is equipped at the point of manufacture with an activation lock; and

(V) bears a permanent label applied by the manufacturer that--

(aa) is made of material not adversely affected by water;

(bb) is attached by means of non-water-soluble adhesive; and

(cc) advises purchasers and end-users of the intended and appropriate use of the product with the following notice printed in 16.5 point Arial Narrow Bold font:

IMPORTANT INFORMATION: This water heater is intended only for use as part of an electric thermal storage or demand response program. It will not provide adequate hot water unless enrolled in such a program and activated by your utility company or another program operator. Confirm the availability of a program in your local area before purchasing or installing this product.

#### **(B) Requirement**

The manufacturer or private labeler shall provide the activation key for a grid-enabled water heater only to a utility or other company that operates an electric thermal storage or demand response program that uses such a grid-enabled water heater.

#### **(C) Reports**

##### **(i) Manufacturers**

The Secretary shall require each manufacturer of grid-enabled water heaters to report to the Secretary annually the quantity of grid-enabled water heaters that the manufacturer ships each year.

##### **(ii) Operators**

The Secretary shall require utilities and other demand response and thermal storage program operators to report annually the quantity of grid-enabled water heaters activated for their programs using forms of the Energy Information Agency or using such other mechanism that the Secretary determines appropriate after an opportunity for notice and comment.

##### **(iii) Confidentiality requirements**

The Secretary shall treat shipment data reported by manufacturers as confidential business information.

**(D) Publication of information****(i) In general**

In 2017 and 2019, the Secretary shall publish an analysis of the data collected under subparagraph (C) to assess the extent to which shipped products are put into use in demand response and thermal storage programs.

**(ii) Prevention of product diversion**

If the Secretary determines that sales of grid-enabled water heaters exceed by 15 percent or greater the quantity of such products activated for use in demand response and thermal storage programs annually, the Secretary shall, after opportunity for notice and comment, establish procedures to prevent product diversion for non-program purposes.

**(E) Compliance****(i) In general**

Subparagraphs (A) through (D) shall remain in effect until the Secretary determines under this section that--

**(I)** grid-enabled water heaters do not require a separate efficiency requirement; or

**(II)** sales of grid-enabled water heaters exceed by 15 percent or greater the quantity of such products activated for use in demand response and thermal storage programs annually and procedures to prevent product diversion for non-program purposes would not be adequate to prevent such product diversion.

**(ii) Effective date**

If the Secretary exercises the authority described in clause (i) or amends the efficiency requirement for grid-enabled water heaters, that action will take effect on the date described in subsection (m)(4)(A)(ii).

**(iii) Consideration**

In carrying out this section with respect to electric water heaters, the Secretary shall consider the impact on thermal storage and demand response programs, including any impact on energy savings, electric bills, peak load reduction, electric reliability, integration of renewable resources, and the environment.

**(iv) Requirements**



In carrying out this paragraph, the Secretary shall require that grid-enabled water heaters be equipped with communication capability to enable the grid-enabled water heaters to participate in ancillary services programs if the Secretary determines that the technology is available, practical, and cost-effective.

**(f) Standards for furnaces and boilers**

**(1)** Furnaces (other than furnaces designed solely for installation in mobile homes) manufactured on or after January 1, 1992, shall have an annual fuel utilization efficiency of not less than 78 percent, except that--

**(A)** boilers (other than gas steam boilers) shall have an annual fuel utilization efficiency of not less than 80 percent and gas steam boilers shall have an annual fuel utilization efficiency of not less than 75 percent; and

**(B)** the Secretary shall prescribe a final rule not later than January 1, 1989, establishing an energy conservation standard--

**(i)** which is for furnaces (other than furnaces designed solely for installation in mobile homes) having an input of less than 45,000 Btu per hour and manufactured on or after January 1, 1992;

**(ii)** which provides that the annual fuel utilization efficiency of such furnaces shall be a specific percent which is not less than 71 percent and not more than 78 percent; and

**(iii)** which the Secretary determines is not likely to result in a significant shift from gas heating to electric resistance heating with respect to either residential construction or furnace replacement.

**(2)** Furnaces which are designed solely for installation in mobile homes and which are manufactured on or after September 1, 1990, shall have an annual fuel utilization efficiency of not less than 75 percent.

**(3) Boilers**

**(A) In general**

Subject to subparagraphs (B) and (C), boilers manufactured on or after September 1, 2012, shall meet the following requirements:

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Boiler Type	Minimum Annual Fuel	Design Requirements
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	Utilization Efficiency	
Gas Hot Water .....	82%	No Constant Burning Pilot, Automatic Means for Adjusting Water Temperature
Gas Steam .....	80%	No Constant Burning Pilot
Oil Hot Water .....	84%	Automatic Means for Adjusting Temperature
Oil Steam.....	82%	None
Electric Hot Water .....	None	Automatic Means for Adjusting Temperature
Electric Steam .....	None	None

**(B) Automatic means for adjusting water temperature**

**(i) In general**

The manufacturer shall equip each gas, oil, and electric hot water boiler (other than a boiler equipped with a tankless domestic water heating coil) with automatic means for adjusting the temperature of the water supplied by the boiler to ensure

that an incremental change in inferred heat load produces a corresponding incremental change in the temperature of water supplied.

**(ii) Single input rate**

For a boiler that fires at 1 input rate, the requirements of this subparagraph may be satisfied by providing an automatic means that allows the burner or heating element to fire only when the means has determined that the inferred heat load cannot be met by the residual heat of the water in the system.

**(iii) No inferred heat load**

When there is no inferred heat load with respect to a hot water boiler, the automatic means described in clauses (i) and (ii) shall limit the temperature of the water in the boiler to not more than 140 degrees Fahrenheit.

**(iv) Operation**

A boiler described in clause (i) or (ii) shall be operable only when the automatic means described in clauses (i), (ii), and (iii) is installed.

**(C) Exception**

A boiler that is manufactured to operate without any need for electricity or any electric connection, electric gauges, electric pumps, electric wires, or electric devices shall not be required to meet the requirements of this paragraph.

**(4)(A)** The Secretary shall publish a final rule no later than January 1, 1992, to determine whether the standards established by paragraph (2) for mobile home furnaces should be amended. Such rule shall provide that any amendment shall apply to products manufactured on or after January 1, 1994.

**(B)** The Secretary shall publish a final rule no later than January 1, 1994, to determine whether the standards established by this subsection for furnaces (including mobile home furnaces) should be amended. Such rule shall provide that any amendment shall apply to products manufactured on or after January 1, 2002.

**(C)** After January 1, 1997, and before January 1, 2007, the Secretary shall publish a final rule to determine whether standards in effect for such products should be amended. Such rule shall contain such amendment, if any, and provide that any amendment shall apply to products manufactured on or after January 1, 2012.

**(D)** Notwithstanding any other provision of this chapter, if the requirements of subsection (o) are met, not later than December 31, 2013, the Secretary shall consider and

prescribe energy conservation standards or energy use standards for electricity used for purposes of circulating air through duct work.

**(g) Standards for dishwashers; clothes washers; clothes dryers; fluorescent lamp ballasts**

(1) Dishwashers manufactured on or after January 1, 1988, shall be equipped with an option to dry without heat.

(2) All rinse cycles of clothes washers shall include an unheated water option, but may have a heated water rinse option, for products manufactured on or after January 1, 1988.

(3) Gas clothes dryers shall not be equipped with a constant burning pilot for products manufactured on or after January 1, 1988.

(4)(A) The Secretary shall publish final rules no later than January 1, 1990, to determine if the standards established under this subsection for products described in paragraphs (1), (2), and (3) should be amended. Such rules shall provide that any amendment shall apply to products the manufacture of which is completed on or after January 1, 1993.

(B) After January 1, 1990, the Secretary shall publish a final rule no later than five years after the date of publication of the previous final rule. The Secretary shall determine in such rule whether to amend the standards in effect for such products.

(C) Any such amendment shall apply to products manufactured after a date which is five years after--

(i) the effective date of the previous amendment; or

(ii) if the previous final rule did not amend the standard, the earliest date by which a previous amendment could have been in effect;

except that in no case may any amended standard apply to products manufactured within three years after publication of the final rule establishing such standard.

(5) Except as provided in paragraph (6), each fluorescent lamp ballast--

(A)(i) manufactured on or after January 1, 1990;

(ii) sold by the manufacturer on or after April 1, 1990; or

(iii) incorporated into a luminaire by a luminaire manufacturer on or after April 1, 1991; and

(B) designed--

(i) to operate at nominal input voltages of 120 or 277 volts;

(ii) to operate with an input current frequency of 60 Hertz; and

(iii) for use in connection with an F40T12, F96T12, or F96T12HO lamps;

shall have a power factor of 0.90 or greater and shall have a ballast efficacy factor not less than the following:

Application for Operation of	Ballast Input Voltage	Total Nominal Lamp Watts	Ballast Efficacy Factor
one F40T12 lamp.....	120	40	1.805
	277	40	1.805
two F40T12 lamps.....	120	80	1.060
	277	80	1.050
two F96T12 lamps.....	120	150	0.570
	277	150	0.570
two F96T12HO lamps .....	120	220	0.390
	277	220	0.390

(6) The standards described in paragraph (5) do not apply to (A) a ballast which is designed for dimming or for use in ambient temperatures of 0° F or less, or (B) a ballast which has a power factor of less than 0.90 and is designed and labeled for use only in residential building applications.

(7)(A) The Secretary shall publish a final rule no later than January 1, 1992, to determine if the standards established under paragraph (5) should be amended, including whether such standards should be amended so that they would be applicable to ballasts described in paragraph (6) and other fluorescent lamp ballasts. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 1995.

(B) After January 1, 1992, the Secretary shall publish a final rule no later than five years after the date of publication of a previous final rule. The Secretary shall determine in such rule whether to amend the standards in effect for fluorescent lamp ballasts, including whether such standards should be amended so that they would be applicable to additional fluorescent lamp ballasts.

(C) Any amendment prescribed under subparagraph (B) shall apply to products manufactured after a date which is five years after--

(i) the effective date of the previous amendment; or

(ii) if the previous final rule did not amend the standards, the earliest date by which a previous amendment could have been effective;

except that in no case may any amended standard apply to products manufactured within three years after publication of the final rule establishing such amended standard.

(8)(A) Each fluorescent lamp ballast (other than replacement ballasts or ballasts described in subparagraph (C))--

(i)(I) manufactured on or after July 1, 2009;

(II) sold by the manufacturer on or after October 1, 2009; or

(III) incorporated into a luminaire by a luminaire manufacturer on or after July 1, 2010; and

(ii) designed--

(I) to operate at nominal input voltages of 120 or 277 volts;

- (II) to operate with an input current frequency of 60 Hertz; and
- (III) for use in connection with F34T12 lamps, F96T12/ES lamps, or F96T12HO/ES lamps;
- shall have a power factor of 0.90 or greater and shall have a ballast efficacy factor of not less than the following:

Application for operation of	Total		
	Ballast	nominal	Ballast
	input	lamp	efficacy
	voltage	watts	factor
One F34T12 lamp	120/277	34	2.61
Two F34T12 lamps	120/277	68	1.35
Two F96T12/ES lamps	120/277	120	0.77
Two F96T12HO/ES lamps	120/277	190	0.42.

- (B) The standards described in subparagraph (A) shall apply to all ballasts covered by subparagraph (A)(ii) that are manufactured on or after July 1, 2010, or sold by the manufacturer on or after October 1, 2010.
- (C) The standards described in subparagraph (A) do not apply to--
- (i) a ballast that is designed for dimming to 50 percent or less of the maximum output of the ballast;
- (ii) a ballast that is designed for use with 2 F96T12HO lamps at ambient temperatures of negative 20°F or less and for use in an outdoor sign; or

(iii) a ballast that has a power factor of less than 0.90 and is designed and labeled for use only in residential applications.

**(9) Residential clothes washers manufactured on or after January 1, 2011**

**(A) In general**

A top-loading or front-loading standard-size residential clothes washer manufactured on or after January 1, 2011, shall have--

- (i) a Modified Energy Factor of at least 1.26; and
- (ii) a water factor of not more than 9.5.

**(B) Amendment of standards**

**(i) In general**

Not later than December 31, 2011, the Secretary shall publish a final rule determining whether to amend the standards in effect for clothes washers manufactured on or after January 1, 2015.

**(ii) Amended standards**

The final rule shall contain any amended standards.

**(10) Residential dishwashers manufactured on or after January 1, 2010**

**(A) In general**

A dishwasher manufactured on or after January 1, 2010, shall--

- (i) for a standard size dishwasher not exceed 355 kWh/year and 6.5 gallons per cycle; and
- (ii) for a compact size dishwasher not exceed 260 kWh/year and 4.5 gallons per cycle.

**(B) Amendment of standards**

**(i) In general**

Not later than January 1, 2015, the Secretary shall publish a final rule determining whether to amend the standards for dishwashers manufactured on or after January 1, 2018.

**(ii) Amended standards**



The final rule shall contain any amended standards.

**(h) Standards for kitchen ranges and ovens**

**(1)** Gas kitchen ranges and ovens having an electrical supply cord shall not be equipped with a constant burning pilot for products manufactured on or after January 1, 1990.

**(2)(A)** The Secretary shall publish a final rule no later than January 1, 1992, to determine if the standards established for kitchen ranges and ovens in this subsection should be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after January 1, 1995.

**(B)** The Secretary shall publish a final rule no later than January 1, 1997, to determine whether standards in effect for such products should be amended. Such rule shall apply to products manufactured on or after January 1, 2000.

**(i) General service fluorescent lamps, general service incandescent lamps, intermediate base incandescent lamps, candelabra base incandescent lamps, and incandescent reflector lamps**

**(1) Standards**

**(A) Definition of effective date**

In this paragraph (other than subparagraph (D)), the term “effective date” means, with respect to each type of lamp specified in a table contained in subparagraph (B), the last day of the period of months corresponding to that type of lamp (as specified in the table) that follows October 24, 1992.

**(B) Minimum standards**

Each of the following general service fluorescent lamps and incandescent reflector lamps manufactured after the effective date specified in the tables contained in this paragraph shall meet or exceed the following lamp efficacy and CRI standards:

FLUORESCENT LAMPS

Lamp Type	Nominal Lamp	Minimum	Minimum	Effective Date
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	Wattage	CRI	Average Lamp Efficacy (LPW)	(Period of Months)
4-foot medium bi-pin ....	>35 W	69	75.0	36
	≤35 W	45	75.0	36
2-foot U-shaped .....	>35 W	69	68.0	36
	≤35 W	45	64.0	36
8-foot slimline.....	65 W	69	80.0	18
	≤35 W	45	80.0	18
8-foot high output.....	>100 W	69	80.0	18
	≤100 W	45	80.0	18

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INCANDESCENT REFLECTOR LAMPS

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Nominal Lamp Wattage	Minimum Average Lamp Efficacy (LPW)	Effective Date (Period of Months)
40-50.....	10.5	36
51-66.....	11.0	36
67-85.....	12.5	36
86-115.....	14.0	36
116-155.....	14.5	36
156-205.....	15.0	36

### **(C) Exemptions**

The standards specified in subparagraph (B) shall not apply to the following types of incandescent reflector lamps:

- (i) Lamps rated at 50 watts or less that are ER30, BR30, BR40, or ER40 lamps.
- (ii) Lamps rated at 65 watts that are BR30, BR40, or ER40 lamps.
- (iii) R20 incandescent reflector lamps rated 45 watts or less.

### **(D) Effective dates**

**(i) ER, BR, and BPAR lamps**

The standards specified in subparagraph (B) shall apply with respect to ER incandescent reflector lamps, BR incandescent reflector lamps, BPAR incandescent reflector lamps, and similar bulb shapes on and after January 1, 2008.

**(ii) Lamps between 2.25-2.75 inches in diameter**

The standards specified in subparagraph (B) shall apply with respect to incandescent reflector lamps with a diameter of more than 2.25 inches, but not more than 2.75 inches, on and after the later of January 1, 2008, or the date that is 180 days after December 19, 2007.

(2) Notwithstanding section 6302(a)(5) of this title and section 6302(b) of this title, it shall not be unlawful for a manufacturer to sell a lamp which is in compliance with the law at the time such lamp was manufactured.

(3) Not less than 36 months after October 24, 1992, the Secretary shall initiate a rulemaking procedure and shall publish a final rule not later than the end of the 54-month period beginning on October 24, 1992, to determine if the standards established under paragraph (1) should be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after the 36-month period beginning on the date such final rule is published.

(4) Not less than eight years after October 24, 1992, the Secretary shall initiate a rulemaking procedure and shall publish a final rule not later than nine years and six months after October 24, 1992, to determine if the standards in effect for fluorescent lamps and incandescent lamps should be amended. Such rule shall contain such amendment, if any, and provide that the amendment shall apply to products manufactured on or after the 36-month period beginning on the date such final rule is published.

(5) Not later than the end of the 24-month period beginning on the date labeling requirements under section 6294(a)(2)(C) of this title become effective, the Secretary shall initiate a rulemaking procedure to determine if the standards in effect for fluorescent lamps and incandescent lamps should be amended so that they would be applicable to additional general service fluorescent<sup>2</sup> and shall publish, not later than 18 months after initiating such rulemaking, a final rule including such amended standards, if any. Such rule shall provide that the amendment shall apply to products manufactured after a date which is 36 months after the date such rule is published.

**(6) Standards for general service lamps**

**(A) Rulemaking before January 1, 2014****(i) In general**

Not later than January 1, 2014, the Secretary shall initiate a rulemaking procedure to determine whether--

(I) standards in effect for general service lamps should be amended to establish more stringent standards than the standards specified in paragraph (1)(A); and

(II) the exemptions for certain incandescent lamps should be maintained or discontinued based, in part, on exempted lamp sales collected by the Secretary from manufacturers.

**(ii) Scope**

The rulemaking--

(I) shall not be limited to incandescent lamp technologies; and

(II) shall include consideration of a minimum standard of 45 lumens per watt for general service lamps.

**(iii) Amended standards**

If the Secretary determines that the standards in effect for general service incandescent lamps should be amended, the Secretary shall publish a final rule not later than January 1, 2017, with an effective date that is not earlier than 3 years after the date on which the final rule is published.

**(iv) Phased-in effective dates**

The Secretary shall consider phased-in effective dates under this subparagraph after considering--

(I) the impact of any amendment on manufacturers, retiring and repurposing existing equipment, stranded investments, labor contracts, workers, and raw materials; and

(II) the time needed to work with retailers and lighting designers to revise sales and marketing strategies.

**(v) Backstop requirement**

If the Secretary fails to complete a rulemaking in accordance with clauses (i) through (iv) or if the final rule does not produce savings that are greater than or

equal to the savings from a minimum efficacy standard of 45 lumens per watt, effective beginning January 1, 2020, the Secretary shall prohibit the sale of any general service lamp that does not meet a minimum efficacy standard of 45 lumens per watt.

**(vi) State preemption**

Neither section 6297(b) of this title nor any other provision of law shall preclude California or Nevada from adopting, effective beginning on or after January 1, 2018-

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(I) a final rule adopted by the Secretary in accordance with clauses (i) through (iv);

(II) if a final rule described in subclause (I) has not been adopted, the backstop requirement under clause (v); or

(III) in the case of California, if a final rule described in subclause (I) has not been adopted, any California regulations relating to these covered products adopted pursuant to State statute in effect as of December 19, 2007.

**(B) Rulemaking before January 1, 2020**

**(i) In general**

Not later than January 1, 2020, the Secretary shall initiate a rulemaking procedure to determine whether--

(I) standards in effect for general service incandescent lamps should be amended to reflect lumen ranges with more stringent maximum wattage than the standards specified in paragraph (1)(A); and

(II) the exemptions for certain incandescent lamps should be maintained or discontinued based, in part, on exempted lamp sales data collected by the Secretary from manufacturers.

**(ii) Scope**

The rulemaking shall not be limited to incandescent lamp technologies.

**(iii) Amended standards**

If the Secretary determines that the standards in effect for general service incandescent lamps should be amended, the Secretary shall publish a final rule not

later than January 1, 2022, with an effective date that is not earlier than 3 years after the date on which the final rule is published.

**(iv) Phased-in effective dates**

The Secretary shall consider phased-in effective dates under this subparagraph after considering--

**(I)** the impact of any amendment on manufacturers, retiring and repurposing existing equipment, stranded investments, labor contracts, workers, and raw materials; and

**(II)** the time needed to work with retailers and lighting designers to revise sales and marketing strategies.

**(7)(A)** With respect to any lamp to which standards are applicable under this subsection or any lamp specified in section 6317 of this title, the Secretary shall inform any Federal entity proposing actions which would adversely impact the energy consumption or energy efficiency of such lamp of the energy conservation consequences of such action. It shall be the responsibility of such Federal entity to carefully consider the Secretary's comments.

**(B)** Notwithstanding subsection (n)(1), the Secretary shall not be prohibited from amending any standard, by rule, to permit increased energy use or to decrease the minimum required energy efficiency of any lamp to which standards are applicable under this subsection if such action is warranted as a result of other Federal action (including restrictions on materials or processes) which would have the effect of either increasing the energy use or decreasing the energy efficiency of such product.

**(8)** Not later than the date on which standards established pursuant to this subsection become effective, or, with respect to high-intensity discharge lamps covered under section 6317 of this title, the effective date of standards established pursuant to such section, each manufacturer of a product to which such standards are applicable shall file with the Secretary a laboratory report certifying compliance with the applicable standard for each lamp type. Such report shall include the lumen output and wattage consumption for each lamp type as an average of measurements taken over the preceding 12-month period. With respect to lamp types which are not manufactured during the 12-month period preceding the date such standards become effective, such report shall be filed with the Secretary not later than the date which is 12 months after the date manufacturing is commenced and shall include the lumen output and wattage consumption for each such lamp type as an average of measurements taken during such 12-month period.

**(j) Standards for showerheads and faucets**

**(1)** The maximum water use allowed for any showerhead manufactured after January 1, 1994, is 2.5 gallons per minute when measured at a flowing water pressure of 80 pounds per square inch. Any such showerhead shall also meet the requirements of ASME/ANSI A112.18.1M-1989, 7.4.3(a).

**(2)** The maximum water use allowed for any of the following faucets manufactured after January 1, 1994, when measured at a flowing water pressure of 80 pounds per square inch, is as follows:

Lavatory faucets.....2.5 gallons per minute

Lavatory replacement aerators .....2.5 gallons per minute

Kitchen faucets .....2.5 gallons per minute

Kitchen replacement aerators .....2.5 gallons per minute

Metering faucets..... 0.25 gallons per cycle

**(3)(A)** If the maximum flow rate requirements or the design requirements of ASME/ANSI Standard A112.18.1M-1989 are amended to improve the efficiency of water use of any type or class of showerhead or faucet and are approved by ANSI, the Secretary shall, not later than 12 months after the date of such amendment, publish a final rule establishing an amended uniform national standard for that product at the level specified in the amended ASME/ANSI Standard A112.18.1M and providing that such standard shall apply to products manufactured after a date which is 12 months after the publication of such rule, unless the Secretary determines, by rule published in the Federal Register, that adoption of a uniform national standard at the level specified in such amended ASME/ANSI Standard A112.18.1M--

**(i)** is not technologically feasible and economically justified under subsection (o);



(ii) is not consistent with the maintenance of public health and safety; or

(iii) is not consistent with the purposes of this chapter.

**(B)(i)** As part of the rulemaking conducted under subparagraph (A), the Secretary shall also determine if adoption of a uniform national standard for any type or class of showerhead or faucet more stringent than such amended ASME/ANSI Standard A112.18.1M--

**(I)** would result in additional conservation of energy or water;

**(II)** would be technologically feasible and economically justified under subsection (o); and

**(III)** would be consistent with the maintenance of public health and safety.

**(ii)** If the Secretary makes an affirmative determination under clause (i), the final rule published under subparagraph (A) shall waive the provisions of section 6297(c) of this title with respect to any State regulation concerning the water use or water efficiency of such type or class of showerhead or faucet if such State regulation--

**(I)** is more stringent than amended ASME/ANSI Standard A112.18.1M for such type or class of showerhead or faucet and the standard in effect for such product on the day before the date on which a final rule is published under subparagraph (A); and

**(II)** is applicable to any sale or installation of all products in such type or class of showerhead or faucet.

**(C)** If, after any period of five consecutive years, the maximum flow rate requirements of the ASME/ANSI standard for showerheads are not amended to improve the efficiency of water use of such products, or after any such period such requirements for faucets are not amended to improve the efficiency of water use of such products, the Secretary shall, not later than six months after the end of such five-year period, publish a final rule waiving the provisions of section 6297(c) of this title with respect to any State regulation concerning the water use or water efficiency of such type or class of showerhead or faucet if such State regulation--

**(i)** is more stringent than the standards in effect for such type or class of showerhead or faucet; and

**(ii)** is applicable to any sale or installation of all products in such type or class of showerhead or faucet.

**(k) Standards for water closets and urinals**

**(1)(A)** Except as provided in subparagraph (B), the maximum water use allowed in gallons per flush for any of the following water closets manufactured after January 1, 1994, is the following:

Gravity tank-type toilets ..... 1.6 gpf.

Flushometer tank toilets ..... 1.6 gpf.

Electromechanical hydraulic toilets ..... 1.6 gpf.

Blowout toilets ..... 3.5 gpf.

**(B)** The maximum water use allowed for any gravity tank-type white 2-piece toilet which bears an adhesive label conspicuous upon installation consisting of the words “Commercial Use Only” manufactured after January 1, 1994, and before January 1, 1997, is 3.5 gallons per flush.

**(C)** The maximum water use allowed for flushometer valve toilets, other than blowout toilets, manufactured after January 1, 1997, is 1.6 gallons per flush.

**(2)** The maximum water use allowed for any urinal manufactured after January 1, 1994, is 1.0 gallon per flush.

**(3)(A)** If the maximum flush volume requirements of ASME Standard A112.19.6-1990 are amended to improve the efficiency of water use of any low consumption water closet or low consumption urinal and are approved by ANSI, the Secretary shall, not later than 12 months after the date of such amendment, publish a final rule establishing an amended uniform national standard for that product at the level specified in amended ASME/ANSI Standard A112.19.6 and providing that such standard shall apply to products manufactured after a date which is one year after the publication of such rule, unless the Secretary determines, by rule published in the Federal Register, that adoption of a uniform national standard at the level specified in such amended ASME/ANSI Standard A112.19.6--

**(i)** is not technologically feasible and economically justified under subsection (o);

(ii) is not consistent with the maintenance of public health and safety; or

(iii) is not consistent with the purposes of this chapter.

**(B)(i)** As part of the rulemaking conducted under subparagraph (A), the Secretary shall also determine if adoption of a uniform national standard for any type or class of low consumption water closet or low consumption urinal more stringent than such amended ASME/ANSI Standard A112.19.6 for such product--

**(I)** would result in additional conservation of energy or water;

**(II)** would be technologically feasible and economically justified under subsection (o); and

**(III)** would be consistent with the maintenance of public health and safety.

**(ii)** If the Secretary makes an affirmative determination under clause (i), the final rule published under subparagraph (A) shall waive the provisions of section 6297(c) of this title with respect to any State regulation concerning the water use or water efficiency of such type or class of low consumption water closet or low consumption urinal if such State regulation--

**(I)** is more stringent than amended ASME/ANSI Standard A112.19.6 for such type or class of low consumption water closet or low consumption urinal and the standard in effect for such product on the day before the date on which a final rule is published under subparagraph (A); and

**(II)** is applicable to any sale or installation of all products in such type or class of low consumption water closet or low consumption urinal.

**(C)** If, after any period of five consecutive years, the maximum flush volume requirements of the ASME/ANSI standard for low consumption water closets are not amended to improve the efficiency of water use of such products, or after any such period such requirements for low consumption urinals are not amended to improve the efficiency of water use of such products, the Secretary shall, not later than six months after the end of such five-year period, publish a final rule waiving the provisions of section 6297(c) of this title with respect to any State regulation concerning the water use or water efficiency of such type or class of water closet or urinal if such State regulation--

**(i)** is more stringent than the standards in effect for such type or class of water closet or urinal; and

(ii) is applicable to any sale or installation of all products in such type or class of water closet or urinal.

**(l) Standards for other covered products**

(1) The Secretary may prescribe an energy conservation standard for any type (or class) of covered products of a type specified in paragraph (20) of section 6292(a) of this title if the requirements of subsections (o) and (p) are met and the Secretary determines that-

(A) the average per household energy use within the United States by products of such type (or class) exceeded 150 kilowatt-hours (or its Btu equivalent) for any 12-month period ending before such determination;

(B) the aggregate household energy use within the United States by products of such type (or class) exceeded 4,200,000,000 kilowatt-hours (or its Btu equivalent) for any such 12-month period;

(C) substantial improvement in the energy efficiency of products of such type (or class) is technologically feasible; and

(D) the application of a labeling rule under section 6294 of this title to such type (or class) is not likely to be sufficient to induce manufacturers to produce, and consumers and other persons to purchase, covered products of such type (or class) which achieve the maximum energy efficiency which is technologically feasible and economically justified.

(2) Any new or amended standard for covered products of a type specified in paragraph (20) of section 6292(a) of this title shall not apply to products manufactured within five years after the publication of a final rule establishing such standard.

(3) The Secretary may, in accordance with subsections (o) and (p), prescribe an energy conservation standard for television sets. Any such standard may not become effective with respect to products manufactured before January 1, 1992.

**(4) Energy efficiency standards for certain lamps**

**(A) In general**

The Secretary shall prescribe an energy efficiency standard for rough service lamps, vibration service lamps, 3-way incandescent lamps, 2,601-3,300 lumen general service incandescent lamps, and shatter-resistant lamps in accordance with this paragraph.

**(B) Benchmarks**

Not later than 1 year after December 19, 2007, the Secretary, in consultation with the National Electrical Manufacturers Association, shall--

(i) collect actual data for United States unit sales for each of calendar years 1990 through 2006 for each of the 5 types of lamps described in subparagraph (A) to determine the historical growth rate of the type of lamp; and

(ii) construct a model for each type of lamp based on coincident economic indicators that closely match the historical annual growth rate of the type of lamp to provide a neutral comparison benchmark to model future unit sales after calendar year 2006.

**(C) Actual sales data**

**(i) In general**

Effective for each of calendar years 2010 through 2025, the Secretary, in consultation with the National Electrical Manufacturers Association, shall--

(I) collect actual United States unit sales data for each of 5 types of lamps described in subparagraph (A); and

(II) not later than 90 days after the end of each calendar year, compare the lamp sales in that year with the sales predicted by the comparison benchmark for each of the 5 types of lamps described in subparagraph (A).

**(ii) Continuation of tracking**

**(I) Determination**

Not later than January 1, 2023, the Secretary shall determine if actual sales data should be tracked for the lamp types described in subparagraph (A) after calendar year 2025.

**(II) Continuation**

If the Secretary finds that the market share of a lamp type described in subparagraph (A) could significantly erode the market share for general service lamps, the Secretary shall continue to track the actual sales data for the lamp type.

**(D) Rough service lamps**

**(i) In general**

Effective beginning with the first year that the reported annual sales rate for rough service lamps demonstrates actual unit sales of rough service lamps that achieve

levels that are at least 100 percent higher than modeled unit sales for that same year, the Secretary shall--

(I) not later than 90 days after the end of the previous calendar year, issue a finding that the index has been exceeded; and

(II) not later than the date that is 1 year after the end of the previous calendar year, complete an accelerated rulemaking to establish an energy conservation standard for rough service lamps.

**(ii) Backstop requirement**

If the Secretary fails to complete an accelerated rulemaking in accordance with clause (i)(II), effective beginning 1 year after the date of the issuance of the finding under clause (i)(I), the Secretary shall require rough service lamps to--

(I) have a shatter-proof coating or equivalent technology that is compliant with NSF/ANSI 51 and is designed to contain the glass if the glass envelope of the lamp is broken and to provide effective containment over the life of the lamp;

(II) have a maximum 40-watt limitation; and

(III) be sold at retail only in a package containing 1 lamp.

**(E) Vibration service lamps**

**(i) In general**

Effective beginning with the first year that the reported annual sales rate for vibration service lamps demonstrates actual unit sales of vibration service lamps that achieve levels that are at least 100 percent higher than modeled unit sales for that same year, the Secretary shall--

(I) not later than 90 days after the end of the previous calendar year, issue a finding that the index has been exceeded; and

(II) not later than the date that is 1 year after the end of the previous calendar year, complete an accelerated rulemaking to establish an energy conservation standard for vibration service lamps.

**(ii) Backstop requirement**

If the Secretary fails to complete an accelerated rulemaking in accordance with clause (i)(II), effective beginning 1 year after the date of the issuance of the finding under clause (i)(I), the Secretary shall require vibration service lamps to--

(I) have a maximum 40-watt limitation; and

(II) be sold at retail only in a package containing 1 lamp.

**(F) 3-way incandescent lamps**

**(i) In general**

Effective beginning with the first year that the reported annual sales rate for 3-way incandescent lamps demonstrates actual unit sales of 3-way incandescent lamps that achieve levels that are at least 100 percent higher than modeled unit sales for that same year, the Secretary shall--

(I) not later than 90 days after the end of the previous calendar year, issue a finding that the index has been exceeded; and

(II) not later than the date that is 1 year after the end of the previous calendar year, complete an accelerated rulemaking to establish an energy conservation standard for 3-way incandescent lamps.

**(ii) Backstop requirement**

If the Secretary fails to complete an accelerated rulemaking in accordance with clause (i)(II), effective beginning 1 year after the date of issuance of the finding under clause (i)(I), the Secretary shall require that--

(I) each filament in a 3-way incandescent lamp meet the new maximum wattage requirements for the respective lumen range established under subsection (i)(1)(A); and

(II) 3-way lamps be sold at retail only in a package containing 1 lamp.

**(G) 2,601-3,300 lumen general service incandescent lamps**

Effective beginning with the first year that the reported annual sales rate demonstrates actual unit sales of 2,601-3,300 lumen general service incandescent lamps in the lumen range of 2,601 through 3,300 lumens (or, in the case of a modified spectrum, in the lumen range of 1,951 through 2,475 lumens) that achieve levels that are at least 100 percent higher than modeled unit sales for that same year, the Secretary shall impose--

(i) a maximum 95-watt limitation on general service incandescent lamps in the lumen range of 2,601 through 3,300 lumens; and

(ii) a requirement that those lamps be sold at retail only in a package containing 1 lamp.

**(H) Shatter-resistant lamps**

**(i) In general**

Effective beginning with the first year that the reported annual sales rate for shatter-resistant lamps demonstrates actual unit sales of shatter-resistant lamps that achieve levels that are at least 100 percent higher than modeled unit sales for that same year, the Secretary shall--

(I) not later than 90 days after the end of the previous calendar year, issue a finding that the index has been exceeded; and

(II) not later than the date that is 1 year after the end of the previous calendar year, complete an accelerated rulemaking to establish an energy conservation standard for shatter-resistant lamps.

**(ii) Backstop requirement**

If the Secretary fails to complete an accelerated rulemaking in accordance with clause (i)(II), effective beginning 1 year after the date of issuance of the finding under clause (i)(I), the Secretary shall impose--

(I) a maximum wattage limitation of 40 watts on shatter resistant lamps; and

(II) a requirement that those lamps be sold at retail only in a package containing 1 lamp.

**(I) Rulemakings before January 1, 2025**

**(i) In general**

Except as provided in clause (ii), if the Secretary issues a final rule prior to January 1, 2025, establishing an energy conservation standard for any of the 5 types of lamps for which data collection is required under any of subparagraphs (D) through (G), the requirement to collect and model data for that type of lamp shall terminate unless, as part of the rulemaking, the Secretary determines that continued tracking is necessary.

**(ii) Backstop requirement**

If the Secretary imposes a backstop requirement as a result of a failure to complete an accelerated rulemaking in accordance with clause (i)(II) of any of subparagraphs



(D) through (G),<sup>3</sup> the requirement to collect and model data for the applicable type of lamp shall continue for an additional 2 years after the effective date of the backstop requirement.

**(m) Amendment of standards**

**(1) In general**

Not later than 6 years after issuance of any final rule establishing or amending a standard, as required for a product under this part, the Secretary shall publish--

(A) a notice of the determination of the Secretary that standards for the product do not need to be amended, based on the criteria established under subsection (n)(2); or

(B) a notice of proposed rulemaking including new proposed standards based on the criteria established under subsection (o) and the procedures established under subsection (p).

**(2) Notice**

If the Secretary publishes a notice under paragraph (1), the Secretary shall--

(A) publish a notice stating that the analysis of the Department is publicly available; and

(B) provide an opportunity for written comment.

**(3) Amendment of standard; new determination**

**(A) Amendment of standard**

Not later than 2 years after a notice is issued under paragraph (1)(B), the Secretary shall publish a final rule amending the standard for the product.

**(B) New determination**

Not later than 3 years after a determination under paragraph (1)(A), the Secretary shall make a new determination and publication under subparagraph (A) or (B) of paragraph (1).

**(4) Application to products**

**(A) In general**

Except as provided in subparagraph (B), an amendment prescribed under this subsection shall apply to--

(i) with respect to refrigerators, refrigerator-freezers, freezers, room air conditioners, dishwashers, clothes washers, clothes dryers, fluorescent lamp ballasts, and kitchen ranges and ovens, such a product that is manufactured after the date that is 3 years after publication of the final rule establishing an applicable standard; and

(ii) with respect to central air conditioners, heat pumps, water heaters, pool heaters, direct heating equipment, and furnaces, such a product that is manufactured after the date that is 5 years after publication of the final rule establishing an applicable standard.

**(B) Other new standards**

A manufacturer shall not be required to apply new standards to a product with respect to which other new standards have been required during the prior 6-year period.

**(5) Reports**

The Secretary shall promptly submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate--

(A) a progress report every 180 days on compliance with this section, including a specific plan to remedy any failures to comply with deadlines for action established under this section; and

(B) all required reports to the Court or to any party to the Consent Decree in State of New York v Bodman, Consolidated Civil Actions No. 05 Civ. 7807 and No. 05 Civ. 7808.

**(n) Petition for amended standard**

(1) With respect to each covered product described in paragraphs (1) through (11), and in paragraphs (13) and (14) of section 6292(a) of this title, any person may petition the Secretary to conduct a rulemaking to determine for a covered product if the standards contained either in the last final rule required under subsections (b) through (i) of this section or in a final rule published under this section should be amended.

(2) The Secretary shall grant a petition if he finds that it contains evidence which, assuming no other evidence were considered, provides an adequate basis for amending the standards under the following criteria--

(A) amended standards will result in significant conservation of energy;

(B) amended standards are technologically feasible; and

(C) amended standards are cost effective as described in subsection (o)(2)(B)(i)(II).

The grant of a petition by the Secretary under this subsection creates no presumption with respect to the Secretary's determination of any of the criteria in a rulemaking under this section.

### **(3) Notice of decision**

Not later than 180 days after the date of receiving a petition, the Secretary shall publish in the Federal Register a notice of, and explanation for, the decision of the Secretary to grant or deny the petition.

### **(4) New or amended standards**

Not later than 3 years after the date of granting a petition for new or amended standards, the Secretary shall publish in the Federal Register--

(A) a final rule that contains the new or amended standards; or

(B) a determination that no new or amended standards are necessary.

(5) An amendment prescribed under this subsection shall apply to products manufactured after a date which is 5 years after--

(A) the effective date of the previous amendment pursuant to this part; or

(B) if the previous final rule published under this part did not amend the standard, the earliest date by which a previous amendment could have been in effect, except that in no case may an amended standard apply to products manufactured within 3 years (for refrigerators, refrigerator-freezers, and freezers, room air conditioners, dishwashers, clothes washers, clothes dryers, fluorescent lamp ballasts, general service fluorescent lamps, incandescent reflector lamps, and kitchen ranges and ovens) or 5 years (for central air conditioners and heat pumps, water heaters, pool heaters, direct heating equipment and furnaces) after publication of the final rule establishing a standard.

### **(o) Criteria for prescribing new or amended standards**

(1) The Secretary may not prescribe any amended standard which increases the maximum allowable energy use, or, in the case of showerheads, faucets, water closets, or urinals, water use, or decreases the minimum required energy efficiency, of a covered product.

**(2)(A)** Any new or amended energy conservation standard prescribed by the Secretary under this section for any type (or class) of covered product shall be designed to achieve the maximum improvement in energy efficiency, or, in the case of showerheads, faucets, water closets, or urinals, water efficiency, which the Secretary determines is technologically feasible and economically justified.

**(B)(i)** In determining whether a standard is economically justified, the Secretary shall, after receiving views and comments furnished with respect to the proposed standard, determine whether the benefits of the standard exceed its burdens by, to the greatest extent practicable, considering--

**(I)** the economic impact of the standard on the manufacturers and on the consumers of the products subject to such standard;

**(II)** the savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered products which are likely to result from the imposition of the standard;

**(III)** the total projected amount of energy, or as applicable, water, savings likely to result directly from the imposition of the standard;

**(IV)** any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard;

**(V)** the impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard;

**(VI)** the need for national energy and water conservation; and

**(VII)** other factors the Secretary considers relevant.

**(ii)** For purposes of clause (i)(V), the Attorney General shall make a determination of the impact, if any, of any lessening of competition likely to result from such standard and shall transmit such determination, not later than 60 days after the publication of a proposed rule prescribing or amending an energy conservation standard, in writing to the Secretary, together with an analysis of the nature and extent of such impact. Any such determination and analysis shall be published by the Secretary in the Federal Register.

**(iii)** If the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy, and as applicable, water, savings during the first year that

the consumer will receive as a result of the standard, as calculated under the applicable test procedure, there shall be a rebuttable presumption that such standard level is economically justified. A determination by the Secretary that such criterion is not met shall not be taken into consideration in the Secretary's determination of whether a standard is economically justified.

**(3)** The Secretary may not prescribe an amended or new standard under this section for a type (or class) of covered product if--

**(A)** for products other than dishwashers, clothes washers, clothes dryers, and kitchen ranges and ovens, a test procedure has not been prescribed pursuant to section 6293 of this title with respect to that type (or class) of product; or

**(B)** the Secretary determines, by rule, that the establishment of such standard will not result in significant conservation of energy or, in the case of showerheads, faucets, water closets, or urinals, water, or that the establishment of such standard is not technologically feasible or economically justified.

For purposes of section 6297 of this title, a determination under subparagraph (B) with respect to any type (or class) of covered products shall have the same effect as would a standard prescribed for such type (or class).

**(4)** The Secretary may not prescribe an amended or new standard under this section if the Secretary finds (and publishes such finding) that interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States at the time of the Secretary's finding. The failure of some types (or classes) to meet this criterion shall not affect the Secretary's determination of whether to prescribe a standard for other types (or classes).

**(5)** The Secretary may set more than 1 energy conservation standard for products that serve more than 1 major function by setting 1 energy conservation standard for each major function.

**(6) Regional standards for furnaces, central air conditioners, and heat pumps**

**(A) In general**

In any rulemaking to establish a new or amended standard, the Secretary may consider the establishment of separate standards by geographic region for furnaces (except boilers), central air conditioners, and heat pumps.

**(B) National and regional standards****(i) National standard**

If the Secretary establishes a regional standard for a product, the Secretary shall establish a base national standard for the product.

**(ii) Regional standards**

If the Secretary establishes a regional standard for a product, the Secretary may establish more restrictive standards for the product by geographic region as follows:

**(I)** For furnaces, the Secretary may establish 1 additional standard that is applicable in a geographic region defined by the Secretary.

**(II)** For any cooling product, the Secretary may establish 1 or 2 additional standards that are applicable in 1 or 2 geographic regions as may be defined by the Secretary.

**(C) Boundaries of geographic regions****(i) In general**

Subject to clause (ii), the boundaries of additional geographic regions established by the Secretary under this paragraph shall include only contiguous States.

**(ii) Alaska and Hawaii**

The States of Alaska and Hawaii may be included under this paragraph in a geographic region that the States are not contiguous to.

**(iii) Individual States**

Individual States shall be placed only into a single region under this paragraph.

**(D) Prerequisites**

In establishing additional regional standards under this paragraph, the Secretary shall--

**(i)** establish additional regional standards only if the Secretary determines that--

**(I)** the establishment of additional regional standards will produce significant energy savings in comparison to establishing only a single national standard; and

(II) the additional regional standards are economically justified under this paragraph; and

(ii) consider the impact of the additional regional standards on consumers, manufacturers, and other market participants, including product distributors, dealers, contractors, and installers.

**(E) Application; effective date**

**(i) Base national standard**

Any base national standard established for a product under this paragraph shall--

(I) be the minimum standard for the product; and

(II) apply to all products manufactured or imported into the United States on and after the effective date for the standard.

**(ii) Regional standards**

Any additional and more restrictive regional standard established for a product under this paragraph shall apply to any such product installed on or after the effective date of the standard in States in which the Secretary has designated the standard to apply.

**(F) Continuation of regional standards**

**(i) In general**

In any subsequent rulemaking for any product for which a regional standard has been previously established, the Secretary shall determine whether to continue the establishment of separate regional standards for the product.

**(ii) Regional standard no longer appropriate**

Except as provided in clause (iii), if the Secretary determines that regional standards are no longer appropriate for a product, beginning on the effective date of the amended standard for the product--

(I) there shall be 1 base national standard for the product with Federal enforcement; and

(II) State authority for enforcing a regional standard for the product shall terminate.

**(iii) Regional standard appropriate but standard or region changed**

**(I) State no longer contained in region**

Subject to subclause (III), if a State is no longer contained in a region in which a regional standard that is more stringent than the base national standard applies, the authority of the State to enforce the regional standard shall terminate.

**(II) Standard or region revised so that existing regional standard equals base national standard**

If the Secretary revises a base national standard for a product or the geographic definition of a region so that an existing regional standard for a State is equal to the revised base national standard--

(aa) the authority of the State to enforce the regional standard shall terminate on the effective date of the revised base national standard; and

(bb) the State shall be subject to the revised base national standard.

**(III) Standard or region revised so that existing regional standard equals base national standard**

If the Secretary revises a base national standard for a product or the geographic definition of a region so that the standard for a State is lower than the previously approved regional standard, the State may continue to enforce the previously approved standard level.

**(iv) Waiver of federal preemption**

Nothing in this paragraph diminishes the authority of a State to enforce a State regulation for which a waiver of Federal preemption has been granted under section 6297(d) of this title.

**(G) Enforcement****(i) Base national standard****(I) In general**

The Secretary shall enforce any base national standard.

**(II) Trade association certification programs**

In enforcing the base national standard, the Secretary shall use, to the maximum extent practicable, national standard nationally recognized certification programs of trade associations.



**(ii) Regional standards****(I) Enforcement plan**

Not later than 90 days after the date of the issuance of a final rule that establishes a regional standard, the Secretary shall initiate a rulemaking to develop and implement an effective enforcement plan for regional standards for the products that are covered by the final rule.

**(II) Responsible entities**

Any rules regarding enforcement of a regional standard shall clearly specify which entities are legally responsible for compliance with the standards and for making any required information or labeling disclosures.

**(III) Final rule**

Not later than 15 months after the date of the issuance of a final rule that establishes a regional standard for a product, the Secretary shall promulgate a final rule covering enforcement of regional standards for the product.

**(IV) Incorporation by States and localities**

A State or locality may incorporate any Federal regional standard into State or local building codes or State appliance standards.

**(V) State enforcement**

A State agency may seek enforcement of a Federal regional standard in a Federal court of competent jurisdiction.

**(H) Information disclosure****(i) In general**

Not later than 90 days after the date of the publication of a final rule that establishes a regional standard for a product, the Federal Trade Commission shall undertake a rulemaking to determine the appropriate 1 or more methods for disclosing information so that consumers, distributors, contractors, and installers can easily determine whether a specific piece of equipment that is installed in a specific building is in conformance with the regional standard that applies to the building.

**(ii) Methods**

A method of disclosing information under clause (i) may include--

(I) modifications to the Energy Guide label; or

(II) other methods that make it easy for consumers and installers to use and understand at the point of installation.

**(iii) Completion of rulemaking**

The rulemaking shall be completed not later 15 months after the date of the publication of a final rule that establishes a regional standard for a product.

**(p) Procedure for prescribing new or amended standards**

Any new or amended energy conservation standard shall be prescribed in accordance with the following procedure:

(1) A proposed rule which prescribes an amended or new energy conservation standard or prescribes no amendment or no new standard for a type (or class) of covered products shall be published in the Federal Register. In prescribing any such proposed rule with respect to a standard, the Secretary shall determine the maximum improvement in energy efficiency or maximum reduction in energy use that is technologically feasible for each type (or class) of covered products. If such standard is not designed to achieve such efficiency or use, the Secretary shall state in the proposed rule the reasons therefor.

(2) After the publication of such proposed rulemaking, the Secretary shall, in accordance with section 6306 of this title, afford interested persons an opportunity, during a period of not less than 60 days, to present oral and written comments (including an opportunity to question those who make such presentations, as provided in such section) on matters relating to such proposed rule, including--

(A) whether the standard to be prescribed is economically justified (taking into account those factors which the Secretary must consider under subsection (o)(2)) or will result in the effects described in subsection (o)(4);

(B) whether the standard will achieve the maximum improvement in energy efficiency which is technologically feasible;

(C) if the standard will not achieve such improvement, whether the reasons for not achieving such improvement are adequate; and

(D) whether such rule should prescribe a level of energy use or efficiency which is higher or lower than that which would otherwise apply in the case of any group of products within the type (or class) that will be subject to such standard.

(3) A final rule prescribing an amended or new energy conservation standard or prescribing no amended or new standard for a type (or class) of covered products shall be published as soon as is practicable, but not less than 90 days, after publication of the proposed rule in the Federal Register.

**(4) Direct final rules**

**(A) In general**

On receipt of a statement that is submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates), as determined by the Secretary, and contains recommendations with respect to an energy or water conservation standard--

(i) if the Secretary determines that the recommended standard contained in the statement is in accordance with subsection (o) or section 6313(a)(6)(B) of this title, as applicable, the Secretary may issue a final rule that establishes an energy or water conservation standard and is published simultaneously with a notice of proposed rulemaking that proposes a new or amended energy or water conservation standard that is identical to the standard established in the final rule to establish the recommended standard (referred to in this paragraph as a “direct final rule”); or

(ii) if the Secretary determines that a direct final rule cannot be issued based on the statement, the Secretary shall publish a notice of the determination, together with an explanation of the reasons for the determination.

**(B) Public comment**

The Secretary shall solicit public comment for a period of at least 110 days with respect to each direct final rule issued by the Secretary under subparagraph (A)(i).

**(C) Withdrawal of direct final rules**

**(i) In general**

Not later than 120 days after the date on which a direct final rule issued under subparagraph (A)(i) is published in the Federal Register, the Secretary shall withdraw the direct final rule if--

(I) the Secretary receives 1 or more adverse public comments relating to the direct final rule under subparagraph (B)(i)<sup>4</sup> or any alternative joint recommendation; and

(II) based on the rulemaking record relating to the direct final rule, the Secretary determines that such adverse public comments or alternative joint recommendation may provide a reasonable basis for withdrawing the direct final rule under subsection (o), section 6313(a)(6)(B) of this title, or any other applicable law.

**(ii) Action on withdrawal**

On withdrawal of a direct final rule under clause (i), the Secretary shall--

(I) proceed with the notice of proposed rulemaking published simultaneously with the direct final rule as described in subparagraph (A)(i); and

(II) publish in the Federal Register the reasons why the direct final rule was withdrawn.

**(iii) Treatment of withdrawn direct final rules**

A direct final rule that is withdrawn under clause (i) shall not be considered to be a final rule for purposes of subsection (o).

**(D) Effect of paragraph**

Nothing in this paragraph authorizes the Secretary to issue a direct final rule based solely on receipt of more than 1 statement containing recommended standards relating to the direct final rule.

**(q) Special rule for certain types or classes of products**

(1) A rule prescribing an energy conservation standard for a type (or class) of covered products shall specify a level of energy use or efficiency higher or lower than that which applies (or would apply) for such type (or class) for any group of covered products which have the same function or intended use, if the Secretary determines that covered products within such group--

(A) consume a different kind of energy from that consumed by other covered products within such type (or class); or

(B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard from that which applies (or will apply) to other products within such type (or class).

In making a determination under this paragraph concerning whether a performance-related feature justifies the establishment of a higher or lower standard, the Secretary

shall consider such factors as the utility to the consumer of such a feature, and such other factors as the Secretary deems appropriate.

(2) Any rule prescribing a higher or lower level of energy use or efficiency under paragraph (1) shall include an explanation of the basis on which such higher or lower level was established.

**(r) Inclusion in standards of test procedures and other requirements**

Any new or amended energy conservation standard prescribed under this section shall include, where applicable, test procedures prescribed in accordance with section 6293 of this title and may include any requirement which the Secretary determines is necessary to assure that each covered product to which such standard applies meets the required minimum level of energy efficiency or maximum quantity of energy use specified in such standard.

**(s) Determination of compliance with standards**

Compliance with, and performance under, the energy conservation standards (except for design standards authorized by this part) established in, or prescribed under, this section shall be determined using the test procedures and corresponding compliance criteria prescribed under section 6293 of this title.

**(t) Small manufacturer exemption**

(1) Subject to paragraph (2), the Secretary may, on application of any manufacturer, exempt such manufacturer from all or part of the requirements of any energy conservation standard established in or prescribed under this section for any period not longer than the 24-month period beginning on the date such rule becomes effective, if the Secretary finds that the annual gross revenues of such manufacturer from all its operations (including the manufacture and sale of covered products) does not exceed \$8,000,000 for the 12-month period preceding the date of the application. In making such finding with respect to any manufacturer, the Secretary shall take into account the annual gross revenues of any other person who controls, is controlled by, or is under common control with, such manufacturer.

(2) The Secretary may not exercise the authority granted under paragraph (1) with respect to any type (or class) of covered product subject to an energy conservation standard under this section unless the Secretary makes a finding, after obtaining the written views of the Attorney General, that a failure to allow an exemption under paragraph (1) would likely result in a lessening of competition.

**(u) Battery charger and external power supply electric energy consumption**

**(1)(A)** Not later than 18 months after August 8, 2005, the Secretary shall, after providing notice and an opportunity for comment, prescribe, by rule, definitions and test procedures for the power use of battery chargers and external power supplies.

**(B)** In establishing the test procedures under subparagraph (A), the Secretary shall--

**(i)** consider existing definitions and test procedures used for measuring energy consumption in standby mode and other modes; and

**(ii)** assess the current and projected future market for battery chargers and external power supplies.

**(C)** The assessment under subparagraph (B)(ii) shall include--

**(i)** estimates of the significance of potential energy savings from technical improvements to battery chargers and external power supplies; and

**(ii)** suggested product classes for energy conservation standards.

**(D)** Not later than 18 months after August 8, 2005, the Secretary shall hold a scoping workshop to discuss and receive comments on plans for developing energy conservation standards for energy use for battery chargers and external power supplies.

**(E) External power supplies and battery chargers**

**(i) Energy conservation standards**

**(I) External power supplies**

Not later than 2 years after August 8, 2005, the Secretary shall issue a final rule that determines whether energy conservation standards shall be issued for external power supplies or classes of external power supplies.

**(II) Battery chargers**

Not later than July 1, 2011, the Secretary shall issue a final rule that prescribes energy conservation standards for battery chargers or classes of battery chargers or determine that no energy conservation standard is technically feasible and economically justified.

**(ii)** For each product class, any energy conservation standards issued under clause (i) shall be set at the lowest level of energy use that--

**(I)** meets the criteria and procedures of subsections (o), (p), (q), (r), (s), and (t); and

(II) would result in significant overall annual energy savings, considering standby mode and other operating modes.

(2) The Secretary and the Administrator shall collaborate and develop programs (including programs under section 6294a of this title and other voluntary industry agreements or codes of conduct) that are designed to reduce standby mode energy use.

(3) Efficiency standards for class A external power supplies

(A) In general

Subject to subparagraphs (B) through (E), a class A external power supply manufactured on or after the later of July 1, 2008, or December 19, 2007, shall meet the following standards:

Active Mode	
Nameplate Output	Required Efficiency
	(decimal equivalent of a percentage)
Less than 1 watt	0.5 times the Nameplate Output
From 1 watt to not more than 51 watts	The sum of 0.09 times the Natural Logarithm of the Nameplate Output and 0.5
Greater than 51 watts	0.85

---

No-Load Mode

Nameplate Output

Maximum Consumption

---

Not more than 250 watts

0.5 watts

---

**(B) Noncovered supplies**

A class A external power supply shall not be subject to subparagraph (A) if the class A external power supply is--

(i) manufactured during the period beginning on July 1, 2008, and ending on June 30, 2015; and

(ii) made available by the manufacturer as a service part or a spare part for an end-use product--

(I) that constitutes the primary load; and

(II) was manufactured before July 1, 2008.

**(C) Marking**

Any class A external power supply manufactured on or after the later of July 1, 2008 or December 19, 2007, shall be clearly and permanently marked in accordance with the External Power Supply International Efficiency Marking Protocol, as referenced in the "Energy Star Program Requirements for Single Voltage External AC-DC and AC-AC Power Supplies, version 1.1" published by the Environmental Protection Agency.

**(D) Amendment of standards**

**(i) Final rule by July 1, 2011**

**(I) In general**

Not later than July 1, 2011, the Secretary shall publish a final rule to determine whether the standards established under subparagraph (A) should be amended.



**(II) Administration**

The final rule shall--

(aa) contain any amended standards; and

(bb) apply to products manufactured on or after July 1, 2013.

**(ii) Final rule by July 1, 2021****(I) In general**

Not later than July 1, 2021 the Secretary shall publish a final rule to determine whether the standards then in effect should be amended.

**(II) Administration**

The final rule shall--

(aa) contain any amended standards; and

(bb) apply to products manufactured on or after July 1, 2023.

**(E) Nonapplication of no-load mode energy efficiency standards to external power supplies for certain security or life safety alarms or surveillance systems****(i) Definition of security or life safety alarm or surveillance system**

In this subparagraph:

**(I) In general**

The term “security or life safety alarm or surveillance system” means equipment designed and marketed to perform any of the following functions (on a continuous basis):

(aa) Monitor, detect, record, or provide notification of intrusion or access to real property or physical assets or notification of threats to life safety.

(bb) Deter or control access to real property or physical assets, or prevent the unauthorized removal of physical assets.

(cc) Monitor, detect, record, or provide notification of fire, gas, smoke, flooding, or other physical threats to real property, physical assets, or life safety.

**(II) Exclusion**

The term “security or life safety alarm or surveillance system” does not include any product with a principal function other than life safety, security, or surveillance that--

(aa) is designed and marketed with a built-in alarm or theft-deterrent feature; or

(bb) does not operate necessarily and continuously in active mode.

**(ii) Nonapplication of no-load mode requirements**

The No-Load Mode energy efficiency standards established by this paragraph shall not apply to an external power supply manufactured before the effective date of the amendment under subparagraph (D)(ii) that--

(I) is an AC-to-AC external power supply;

(II) has a nameplate output of 20 watts or more;

(III) is certified to the Secretary as being designed to be connected to a security or life safety alarm or surveillance system component; and

(IV) on establishment within the External Power Supply International Efficiency Marking Protocol, as referenced in the “Energy Star Program Requirements for Single Voltage External Ac-DC and Ac-Ac Power Supplies”, published by the Environmental Protection Agency, of a distinguishing mark for products described in this clause, is permanently marked with the distinguishing mark.

**(iii) Administration**

In carrying out this subparagraph, the Secretary shall--

(I) require, with appropriate safeguard for the protection of confidential business information, the submission of unit shipment data on an annual basis; and

(II) restrict the eligibility of external power supplies for the exemption provided under this subparagraph on a finding that a substantial number of the external power supplies are being marketed to or installed in applications other than security or life safety alarm or surveillance systems.

**(iv) Treatment in rule**

In the rule under subparagraph (D)(ii) and subsequent amendments the Secretary may treat some or all external power supplies designed to be connected to a security

or life safety alarm or surveillance system as a separate product class or may extend the nonapplication under clause (ii).

**(4) End-use products**

An energy conservation standard for external power supplies shall not constitute an energy conservation standard for the separate end-use product to which the external power supply is connected.

**(5) Exempt supplies**

**(A) February 10, 2014, rule**

**(i) In general**

An external power supply shall not be subject to the final rule entitled “Energy Conservation Program: Energy Conservation Standards for External Power Supplies”, published at 79 Fed. Reg. 7845 (February 10, 2014), if the external power supply--

**(I)** is manufactured during the period beginning on February 10, 2016, and ending on February 10, 2020;

**(II)** is marked in accordance with the External Power Supply International Efficiency Marking Protocol, as in effect on February 10, 2016;

**(III)** meets, where applicable, the standards under paragraph (3)(A), and has been certified to the Secretary as meeting International Efficiency Level IV or higher of the External Power Supply International Efficiency Marking Protocol, as in effect on February 10, 2016; and

**(IV)** is made available by the manufacturer as a service part or a spare part for an end-use product that--

**(aa)** constitutes the primary load; and

**(bb)** was manufactured before February 10, 2016.

**(ii) Reporting**

The Secretary may require manufacturers of products exempted pursuant to clause (i) to report annual total units shipped as service and spare parts that fall below International Efficiency Level VI.

**(iii) Limitation of exemption**

The Secretary may issue a rule, after providing public notice and opportunity for public comment, to limit the applicability of the exemption established under clause (i) if the Secretary determines that the exemption is resulting in a significant reduction of the energy savings that would otherwise result from the final rule described in such clause.

**(B) Amended standards**

**(i) In general**

The Secretary may exempt an external power supply from any amended standard under this subsection if the external power supply--

(I) is manufactured within four years of the compliance date of the amended standard;

(II) complies with applicable marking requirements adopted by the Secretary prior to the amendment;

(III) meets the standards that were in effect prior to the amendment; and

(IV) is made available by the manufacturer as a service part or a spare part for an end-use product that--

(aa) constitutes the primary load; and

(bb) was manufactured before the compliance date of the amended standard.

**(ii) Reporting**

The Secretary may require manufacturers of a product exempted pursuant to clause (i) to report annual total units shipped as service and spare parts that do not meet the amended standard.

**(v) Refrigerated beverage vending machines**

(1) Not later than 4 years after August 8, 2005, the Secretary shall prescribe, by rule, energy conservation standards for refrigerated bottle or canned beverage vending machines.

(2) In establishing energy conservation standards under this subsection, the Secretary shall use the criteria and procedures prescribed under subsections (o) and (p).

(3) Any energy conservation standard prescribed under this subsection shall apply to products manufactured 3 years after the date of publication of a final rule establishing the energy conservation standard.

**(w) Illuminated exit signs**

An illuminated exit sign manufactured on or after January 1, 2006, shall meet the version 2.0 Energy Star Program performance requirements for illuminated exit signs prescribed by the Environmental Protection Agency.

**(x) Torchieres**

A torchiere manufactured on or after January 1, 2006--

- (1) shall consume not more than 190 watts of power; and
- (2) shall not be capable of operating with lamps that total more than 190 watts.

**(y) Low voltage dry-type distribution transformers**

The efficiency of a low voltage dry-type distribution transformer manufactured on or after January 1, 2007, shall be the Class I Efficiency Levels for distribution transformers specified in table 4-2 of the "Guide for Determining Energy Efficiency for Distribution Transformers" published by the National Electrical Manufacturers Association (NEMA TP-1-2002).

**(z) Traffic signal modules and pedestrian modules**

Any traffic signal module or pedestrian module manufactured on or after January 1, 2006, shall--

- (1) meet the performance requirements used under the Energy Star program of the Environmental Protection Agency for traffic signals, as in effect on August 8, 2005; and
- (2) be installed with compatible, electrically connected signal control interface devices and conflict monitoring systems.

**(aa) Unit heaters**

A unit heater manufactured on or after the date that is 3 years after August 8, 2005, shall--

- (1) be equipped with an intermittent ignition device; and
- (2) have power venting or an automatic flue damper.

**(bb) Medium base compact fluorescent lamps**

(1) A bare lamp and covered lamp (no reflector) medium base compact fluorescent lamp manufactured on or after January 1, 2006, shall meet the following requirements prescribed by the August 9, 2001, version of the Energy Star Program Requirements for Compact Fluorescent Lamps, Energy Star Eligibility Criteria, Energy-Efficiency Specification issued by the Environmental Protection Agency and Department of Energy:

(A) Minimum initial efficacy.

(B) Lumen maintenance at 1000 hours.

(C) Lumen maintenance at 40 percent of rated life.

(D) Rapid cycle stress test.

(E) Lamp life.

(2) The Secretary may, by rule, establish requirements for color quality (CRI), power factor, operating frequency, and maximum allowable start time based on the requirements prescribed by the August 9, 2001, version of the Energy Star Program Requirements for Compact Fluorescent Lamps.

(3) The Secretary may, by rule--

(A) revise the requirements established under paragraph (2); or

(B) establish other requirements, after considering energy savings, cost effectiveness, and consumer satisfaction.

**(cc) Dehumidifiers**

(1) Dehumidifiers manufactured on or after October 1, 2007, shall have an Energy Factor that meets or exceeds the following values:

Product Capacity (pints/day):

Minimum Energy

Factor (Liters/kWh)

25.00 or less .....1.00

25.01-35.00 .....	1.20
35.01-54.00 .....	1.30
54.01-74.99 .....	1.50
75.00 or more.....	2.25.

**(2) Dehumidifiers manufactured on or after October 1, 2012**

Dehumidifiers manufactured on or after October 1, 2012, shall have an Energy Factor that meets or exceeds the following values:

<b>Product Capacity (pints/day):</b>	<b>Minimum Energy Factor(liters/kWh)</b>
Up to 35.00.....	1.35
35.01-45.00 .....	1.50
45.01-54.00 .....	1.60
54.01-75.00 .....	1.70
Greater than 75.00 .....	2.5.

**(dd) Commercial prerinse spray valves**

Commercial prerinse spray valves manufactured on or after January 1, 2006, shall have a flow rate of not more than 1.6 gallons per minute.

**(ee) Mercury vapor lamp ballasts**

Mercury vapor lamp ballasts (other than specialty application mercury vapor lamp ballasts) shall not be manufactured or imported after January 1, 2008.

**(ff) Ceiling fans and ceiling fan light kits**

**(1)(A)** All ceiling fans manufactured on or after January 1, 2007, shall have the following features:

**(i)** Fan speed controls separate from any lighting controls.

**(ii)** Adjustable speed controls (either more than 1 speed or variable speed).

**(iii)** The capability of reversible fan action, except for--

**(I)** fans sold for industrial applications;

**(II)** fans sold for outdoor applications; and

**(III)** cases in which safety standards would be violated by the use of the reversible mode.

**(B)** The Secretary may define the exceptions described in clause (iv) in greater detail, but shall not substantively expand the exceptions.

**(2)(A)** Ceiling fan light kits with medium screw base sockets manufactured on or after January 1, 2007, shall be packaged with screw-based lamps to fill all screw base sockets.

**(B)** The screw-based lamps required under subparagraph (A) shall--

**(i)** meet the Energy Star Program Requirements for Compact Fluorescent Lamps, version 3.0, issued by the Department of Energy; or

**(ii)** use light sources other than compact fluorescent lamps that have lumens per watt performance at least equivalent to comparably configured compact fluorescent lamps meeting the Energy Star Program Requirements described in clause (i).

**(3)** Ceiling fan light kits with pin-based sockets for fluorescent lamps manufactured on or after January 1, 2007 shall--

**(A)** meet the Energy Star Program Requirements for Residential Light Fixtures version 4.0 issued by the Environmental Protection Agency; and



(B) be packaged with lamps to fill all sockets.

(4)(A) By January 1, 2007, the Secretary shall consider and issue requirements for any ceiling fan lighting kits other than those covered in paragraphs (2) and (3), including candelabra screw base sockets.

(B) The requirements issued under subparagraph (A) shall be effective for products manufactured 2 years after the date of the final rule.

(C) If the Secretary fails to issue a final rule by the date specified in subparagraph (A), any type of ceiling fan lighting kit described in subparagraph (A) that is manufactured after January 1, 2009--

(i) shall not be capable of operating with lamps that total more than 190 watts; and

(ii) shall be packaged with lamps to fill all sockets.

(5)(A) After January 1, 2010, the Secretary may consider, and issue, if the requirements of subsections (o) and (p) are met, amended energy efficiency standards for ceiling fan light kits.

(B) Any amended standards issued under subparagraph (A) shall apply to products manufactured not earlier than 2 years after the date of publication of the final rule establishing the amended standard.

(6)(A) Notwithstanding any other provision of this chapter, the Secretary may consider, and issue, if the requirements of subsections (o) and (p) are met, energy efficiency or energy use standards for electricity used by ceiling fans to circulate air in a room.

(B) In issuing the standards under subparagraph (A), the Secretary shall consider--

(i) exempting, or setting different standards for, certain product classes for which the primary standards are not technically feasible or economically justified; and

(ii) establishing separate exempted product classes for highly decorative fans for which air movement performance is a secondary design feature.

(C)(i) Large-diameter ceiling fans manufactured on or after January 21, 2020, shall--

(I) not be required to meet minimum ceiling fan efficiency in terms of ratio of the total airflow to the total power consumption as described in the final rule titled 'Energy Conservation Program: Energy Conservation Standards for Ceiling Fans' (82 Fed. Reg. 6826 (January 19, 2017)); and

(II) have a CFEI greater than or equal to--

(aa) 1.00 at high speed; and

(bb) 1.31 at 40 percent speed or the nearest speed that is not less than 40 percent speed.

(ii) For purposes of this subparagraph, the term “CFEI” means the Fan Energy Index for large-diameter ceiling fans, calculated in accordance with ANSI/AMCA Standard 208-18 titled ‘Calculation of the Fan Energy Index’, with the following modifications:

(I) Using an Airflow Constant ( $Q_0$ ) of 26,500 cubic feet per minute.

(II) Using a Pressure Constant ( $P_0$ ) of 0.0027 inches water gauge.

(III) Using a Fan Efficiency Constant ( $\eta_0$ ) of 42 percent.

(7) Section 6297 of this title shall apply to the products covered in paragraphs (1) through (4) beginning on August 8, 2005, except that any State or local labeling requirement for ceiling fans prescribed or enacted before August 8, 2005, shall not be preempted until the labeling requirements applicable to ceiling fans established under section 6294 of this title take effect.

**(gg) Standby mode energy use**

**(1) Definitions**

**(A) In general**

Unless the Secretary determines otherwise pursuant to subparagraph (B), in this subsection:

**(i) Active mode**

The term “active mode” means the condition in which an energy-using product--

(I) is connected to a main power source;

(II) has been activated; and

(III) provides 1 or more main functions.

**(ii) Off mode**

The term “off mode” means the condition in which an energy-using product--

(I) is connected to a main power source; and

(II) is not providing any standby or active mode function.

**(iii) Standby mode**

The term “standby mode” means the condition in which an energy-using product-

-

**(I)** is connected to a main power source; and

**(II)** offers 1 or more of the following user-oriented or protective functions:

**(aa)** To facilitate the activation or deactivation of other functions (including active mode) by remote switch (including remote control), internal sensor, or timer.

**(bb)** Continuous functions, including information or status displays (including clocks) or sensor-based functions.

**(B) Amended definitions**

The Secretary may, by rule, amend the definitions under subparagraph (A), taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission.

**(2) Test procedures****(A) In general**

Test procedures for all covered products shall be amended pursuant to section 6293 of this title to include standby mode and off mode energy consumption, taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission, with such energy consumption integrated into the overall energy efficiency, energy consumption, or other energy descriptor for each covered product, unless the Secretary determines that--

**(i)** the current test procedures for a covered product already fully account for and incorporate the standby mode and off mode energy consumption of the covered product; or

**(ii)** such an integrated test procedure is technically infeasible for a particular covered product, in which case the Secretary shall prescribe a separate standby mode and off mode energy use test procedure for the covered product, if technically feasible.

**(B) Deadlines**

The test procedure amendments required by subparagraph (A) shall be prescribed in a final rule no later than the following dates:

- (i) December 31, 2008, for battery chargers and external power supplies.
- (ii) March 31, 2009, for clothes dryers, room air conditioners, and fluorescent lamp ballasts.
- (iii) June 30, 2009, for residential clothes washers.
- (iv) September 30, 2009, for residential furnaces and boilers.
- (v) March 31, 2010, for residential water heaters, direct heating equipment, and pool heaters.
- (vi) March 31, 2011, for residential dishwashers, ranges and ovens, microwave ovens, and dehumidifiers.

**(C) Prior product standards**

The test procedure amendments adopted pursuant to subparagraph (B) shall not be used to determine compliance with product standards established prior to the adoption of the amended test procedures.

**(3) Incorporation into standard**

**(A) In general**

Subject to subparagraph (B), based on the test procedures required under paragraph (2), any final rule establishing or revising a standard for a covered product, adopted after July 1, 2010, shall incorporate standby mode and off mode energy use into a single amended or new standard, pursuant to subsection (o), if feasible.

**(B) Separate standards**

If not feasible, the Secretary shall prescribe within the final rule a separate standard for standby mode and off mode energy consumption, if justified under subsection (o).

**(hh) Metal halide lamp fixtures**

**(1) Standards**

**(A) In general**

Subject to subparagraphs (B) and (C), metal halide lamp fixtures designed to be operated with lamps rated greater than or equal to 150 watts but less than or equal to 500 watts shall contain--

- (i) a pulse-start metal halide ballast with a minimum ballast efficiency of 88 percent;
- (ii) a magnetic probe-start ballast with a minimum ballast efficiency of 94 percent;
- or
- (iii) a nonpulse-start electronic ballast with--
  - (I) a minimum ballast efficiency of 92 percent for wattages greater than 250 watts; and
  - (II) a minimum ballast efficiency of 90 percent for wattages less than or equal to 250 watts.

**(B) Exclusions**

The standards established under subparagraph (A) shall not apply to--

- (i) fixtures with regulated lag ballasts;
- (ii) fixtures that use electronic ballasts that operate at 480 volts; or
- (iii) fixtures that--
  - (I) are rated only for 150 watt lamps;
  - (II) are rated for use in wet locations, as specified by the National Electrical Code 2002, section 410.4(A); and
  - (III) contain a ballast that is rated to operate at ambient air temperatures above 50°C, as specified by UL 1029-2001.

**(C) Application**

The standards established under subparagraph (A) shall apply to metal halide lamp fixtures manufactured on or after the later of--

- (i) January 1, 2009; or
- (ii) the date that is 270 days after December 19, 2007.

**(2) Final rule by January 1, 2012**

**(A) In general**

Not later than January 1, 2012, the Secretary shall publish a final rule to determine whether the standards established under paragraph (1) should be amended.

**(B) Administration**

The final rule shall--

- (i) contain any amended standard; and
- (ii) apply to products manufactured on or after January 1, 2015.

**(3) Final rule by January 1, 2019**

**(A) In general**

Not later than January 1, 2019, the Secretary shall publish a final rule to determine whether the standards then in effect should be amended.

**(B) Administration**

The final rule shall--

- (i) contain any amended standards; and
- (ii) apply to products manufactured after January 1, 2022.

**(4) Design and performance requirements**

Notwithstanding any other provision of law, any standard established pursuant to this subsection may contain both design and performance requirements.

**(ii) Application date**

Section 6297 of this title applies--

- (1) to products for which energy conservation standards are to be established under subsection (l), (u), or (v) beginning on the date on which a final rule is issued by the Secretary, except that any State or local standard prescribed or enacted for the product before the date on which the final rule is issued shall not be preempted until the energy conservation standard established under subsection (l), (u), or (v) for the product takes effect; and
- (2) to products for which energy conservation standards are established under subsections (w) through (hh) on August 8, 2005, except that any State or local standard prescribed or enacted before August 8, 2005, shall not be preempted until the energy conservation standards established under subsections (w) through (hh) take effect.

**42 U.S.C. § 7607(d)(9)**

§ 7607. Administrative proceedings and judicial review.

**(d) Rulemaking**

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**(9)** In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be--

**(A)** arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

**(B)** contrary to constitutional right, power, privilege, or immunity;

**(C)** in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

**(D)** without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

**5 U.S.C. § 706****§ 706. Scope of Review**

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

- (1) compel agency action unlawfully withheld or unreasonably delayed; and
- (2) hold unlawful and set aside agency action, findings, and conclusions found to be--
  - (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
  - (B) contrary to constitutional right, power, privilege, or immunity;
  - (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
  - (D) without observance of procedure required by law;
  - (E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or
  - (F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.