

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION
AND
STATE ENERGY OFFICE

RULES AND REGULATIONS ESTABLISHING
MINIMUM EFFICIENCY STANDARDS FOR CERTAIN NEW PRODUCTS
SOLD IN THE STATE OF RHODE ISLAND

Dates of Public Notice: March 3, 2006, April 12, 2006

Date of Public Hearing: April 6, 2006

Effective Date: January 1, 2007

PART I. INTRODUCTION

Pursuant to R.I. Gen. Laws § 39-27-1 et seq. and specifically, R.I. Gen. Laws § 39-27-5, establishing minimum efficiency standards for certain types of new products sold, offered for sale or installed in the State of Rhode Island, the Public Utilities Commission hereby promulgates these rules to effectuate the Act of the Rhode Island General Assembly.

PART II. APPLICABILITY

(a) These Rules shall apply to all persons or entities offering for sale or installing in the State of Rhode Island any of the new products listed in Part III of these Rules and Regulations Establishing Minimum Efficiency Standards for Certain New Products Sold in The State of Rhode Island.

PART III. DEFINITIONS

- (a) "Automatic commercial ice-maker" means a factory-made assembly that is shipped in one or more packages that consists of a condensing unit and ice-making section operating as an integrated unit, that makes and harvests ice cubes, and that may store and dispense ice. This term includes machines with capacities between and including fifty (50) and two thousand five hundred (2,500) pounds per twenty-four (24) hours.
- (b) "Ballast" means a device used with an electric discharge lamp to obtain necessary circuit conditions (voltage, current and waveform) for starting and operating the lamp.
- (c) "Chief of Energy and Community Services" means the head official of the Rhode Island State Energy Office.
- (d) "Commercial clothes washer" means a soft mount horizontal or vertical-axis clothes washer that:
- (1) Has a clothes container compartment no greater than three and a half (3.5) cubic feet in the case of a horizontal-axis product or no greater than four (4.0) cubic feet in the case of a vertical-axis product; and
 - (2) Is designed for use by more than one household, such as in multi-family housing, apartments or coin laundries.
- (e) "Commercial pre-rinse spray valve" means a hand-held device designed and marketed for use with commercial dishwashing and ware washing equipment and which sprays water on dishes, flatware, and other food service items for the purpose of removing food residue prior to their cleaning.

- (f) "Commercial refrigerator, freezer and refrigerator-freezer" means self-contained refrigeration equipment that:
- (1) Is not a consumer product as regulated pursuant to 42 U.S. Code § 6291 and subsequent sections;
 - (2) Operates at a chilled, frozen, combination chilled frozen, or variable temperature for the purpose of storing and/or merchandising food, beverages and/or ice;
 - (3) May have transparent and/or solid hinged doors, sliding doors, or a combination of hinged and sliding doors; and
 - (4) Incorporates most components involved in the vapor compression cycle and the refrigerated compartment in a single cabinet.

This term does not include:

- (1) Units with eighty-five (85) cubic feet or more of internal volume;
 - (2) Walk-in refrigerators or freezers;
 - (3) Units with no doors; or
 - (4) Freezers specifically designed for ice cream.
- (g) "Commission" means the Rhode Island Public Utilities Commission.
- (h) "Compensation" means money or any other valuable thing, regardless of form, received or to be received by a person for services rendered.
- (i) "High intensity discharge lamp" means a lamp in which light is produced by the passage of an electric current through a vapor or gas, and in which the light-producing arc is stabilized by bulb wall temperature and the arc tube has a bulb wall loading in excess of three (3) watts per square centimeter.
- (j) "Illuminated exit sign" means an internally-illuminated sign that is designed to be permanently fixed in place to identify a building exit and consists of an electrically powered integral light source that illuminates the legend "EXIT" and any directional indicators and provides contrast between the legend, any directional indicators and the background.
- (k) "Large packaged air-conditioning equipment" means electronically-operated, air-cooled air-conditioning and air-conditioning heat pump equipment having cooling capacity greater than or equal to two hundred forty thousand (240,000) Btu/hour

but less than seven hundred sixty thousand (760,000) Btu/hour that is built as a package and shipped as a whole to end-user sites.

- (l) "Low voltage dry-type distribution transformer" means a transformer that:
 - (1) Has an input voltage of six hundred (600) volts or less;
 - (2) Is air-cooled;
 - (3) Does not use oil as a coolant; and
 - (4) Is rated for operation at a frequency of sixty (60) Hertz.
- (m) "Mercury vapor lamp" means a high-intensity discharge lamp in which the major portion of the light is produced by radiation from mercury operating at a partial pressure in excess of one hundred thousand (100,000) PA (approximately 1 atm). Includes clear, phosphor-coated and self-ballasted lamps.
- (n) "Metal halide lamp" means a high intensity discharge lamp in which the major portion of the light is produced by radiation of metal halides and their products of dissociation, possibly in combination with metallic vapors.
- (o) "Metal halide lamp fixture" means a lamp fixture designed to be operated with a metal halide lamp and a ballast for a metal halide lamp.
- (p) "Probe-start metal halide ballast" means a ballast used to operate metal halide lamps which does not contain an igniter and which instead starts lamps by using a third starting electrode "probe" in the arc tube.
- (q) "Pulldown refrigerator" means a commercial refrigerator with doors that, when fully loaded with twelve (12) ounce canned beverages at ninety (90) degrees F, can cool these beverages to an average stable temperature of thirty-eight (38) degrees F in twelve (12) hours or less.
- (r) "Single-voltage external AC to DC power supply" means a device that:
 - (1) Is designed to convert line voltage AC input into lower voltage DC output;
 - (2) Is able to convert to one DC output voltage at a time;
 - (3) Is sold with, or intended to be used with, a separate end-use product that constitutes the primary power load;
 - (4) Is contained within a separate physical enclosure from the end-use product;

- (5) Is connected to the end-use product via a removable or hard-wired male female electrical connection, cable, cord or other wiring;
 - (6) Does not have batteries or battery packs, including those that are removable, that physically attach directly to the power supply unit;
 - (7) Does not have a battery chemistry or type selector switch and indicator light; or
 - (8) Has a nameplate output power less than or equal to two hundred fifty (250) watts.
- (s) "Torchiere" means a portable electric lighting fixture with a reflective bowl that directs light upward onto a ceiling so as to produce indirect illumination on the surfaces below. A torchiere may include downward directed lamps in addition to the upward, indirect illumination.
- (t) "Traffic signal module" means a standard eight (8) inch (two hundred millimeter (200 mm)) or twelve (12) inch (three hundred millimeter (300 mm)) traffic signal indication, consisting of a light source, a lens, and all other parts necessary for operation.
- (u) "Transformer" means a device consisting of two or more coils of insulated wire and that is designed to transfer alternating current by electromagnetic induction from one coil to another to change the original voltage or current value. The term "transformer does not include:
- (1) Transformers with multiple voltage taps, with the highest voltage tap equaling at least twenty percent (20%) more than the lowest voltage tap; or
 - (2) Transformers, such as those commonly known as drive transformers, rectifier transformers, auto-transformers, uninterruptible power system transformers, impedance transformers, regulating transformers, sealed and nonventilating transformers, machine tool transformers, welding transformers, grounding transformers, or testing transformers, that are designed to be used in a special purpose application and are unlikely to be used in general purpose applications.
- (v) "Unit heater" means a self-contained, vented fan-type commercial space heater that uses natural gas or propane, and that is designed to be installed without ducts within a heated space, except that such term does not include any products covered by federal standards established pursuant to 42 U.S. Code § 6291 and subsequent sections or any product that is a direct vent, forced flue heater with a sealed combustion burner.

PART IV. SCOPE

- (a) The provisions of these Rules apply to the following types of new products sold, offered for sale or installed in the state:
 - (1) Automatic commercial ice makers;
 - (2) Commercial clothes washers;
 - (3) Commercial pre-rinse spray valves;
 - (4) Commercial refrigerators, freezers, and refrigerator freezers;
 - (5) High-intensity discharge lamp ballasts;
 - (6) Illuminated exit signs;
 - (7) Large packaged air-conditioning equipment;
 - (8) Low voltage dry-type distribution transformers;
 - (9) Metal halide lamp fixtures;
 - (10) Single-voltage external AC to DC power supplies;
 - (11) Torchieres;
 - (12) Traffic signal modules; and
 - (13) Unit heaters.

- (b) The provisions of these Rules do not apply to:
 - (1) New products manufactured in the state and sold outside the state;
 - (2) New products manufactured outside the state and sold at wholesale inside the state for final retail sale and installation outside the state;
 - (3) Products installed in mobile manufactured homes at the time of construction; or
 - (4) Products designed expressly for installation and use in recreational vehicles.

PART V. EFFICIENCY STANDARDS

- (a) Products sold on and after the Implementation Dates set forth in Part V of these Rules shall comply with the following minimum efficiency standards:
- (1) Automatic commercial ice makers shall meet the energy efficiency requirements shown in table A-7 of § 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations as adopted on December 15, 2004.
 - (2) Commercial clothes washers shall meet the requirements shown in Table P-4 of § 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations in effect on December 15, 2004.
 - (3) Commercial pre-rinse spray valves shall have a flow rate equal to or less than 1.6 gallons per minute.
 - (4) Commercial refrigerators, freezers and refrigerator-freezers shall meet the minimum efficiency requirements shown in Table A-6 of § 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations as adopted on December 15, 2004 except that pulldown refrigerators with transparent doors shall meet a requirement five percent (5%) less stringent than shown in the California regulations.
 - (5) High-intensity discharge lamp ballasts shall not be designed and marketed to operate a mercury vapor lamp.
 - (6) Illuminated exit signs shall have an input power demand of five (5) watts or less per illuminated face.
 - (7) Large packaged air-conditioning equipment shall meet a minimum energy efficiency ratio of:
 - (A) 10.0 for air conditioning without an integrated heating component or with electric resistance heating integrated into the unit;
 - (B) 9.8 for air conditioning with heating other than electric resistance integrated into the unit;
 - (C) 9.5 for air conditioning with heating other than electric resistance integrated heating component or with electric resistance heating integrated into the unit;

- (D) 9.3 for air conditioning heat pump equipment with heating other than electric resistance integrated into the unit. Large packaged air conditioning heat pumps shall meet a minimum coefficient of performance in the heating mode of three and two tenths (3.2) (measured at a high temperature rating of forty-seven (47) degrees F db).
- (8) Low voltage dry-type distribution transformers shall meet the Class 1 efficiency levels for low voltage 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 Standard TP-1-2002).
- (9) Metal halide lamp fixtures that operate in a vertical position and are designed to be operated with lamps rated greater than or equal to one hundred fifty (150) watts but less than or equal to five hundred (500) watts shall not contain a probe-start metal halide lamp ballast. Universal position fixtures and any other fixture designed to operate in a vertical position are covered by this standard.
- (10) Single-voltage external AC to DC power supplies shall meet the tier one energy efficiency requirements shown in Table U-1 of § 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations as adopted on December 15, 2004, as shown in the table below:

Nameplate Output	Minimum Efficiency in Active Mode
0 to <1 Watt	0.49* Nameplate Output
>1 and ≤ 49 Watts	0.09 * Ln(Nameplate Output) + 0.49
> 49 Watts	0.84
	Maximum Energy Consumption in No-Load Mode
0 to <10 Watts	0.5 Watts
≥10 to ≤ 250 Watts	0.75 Watts
Where Ln(Nameplate Output) = Natural Logarithm of the nameplate output expressed in Watts	

This standard applies to single voltage AC to DC power supplies that are sold individually and to those that are sold as a component of or in conjunction with another product.

- (11) Torchieres shall not use more than one hundred ninety (190) watts. A torchiere shall be deemed to use more than one hundred ninety (190) watts if any commercially available lamp or combination of lamps can be

inserted in its socket(s) and cause the torchiere to draw more than one hundred ninety (190) watts when operated at full brightness.

- (12) Traffic signal modules shall meet the product specification of the "Energy Star Program Requirements for Traffic Signals" developed by the U.S. Environmental Protection Agency that took effect in February 2001 and shall be installed with compatible, electronically- connected signal control interface devices and conflict monitoring systems.
- (13) Unit heater shall be equipped with an intermittent ignition device and shall have either power venting or an automatic flue damper.

PART VI. IMPLEMENTATION

- (a) On or after January 1, 2007, no new commercial clothes washer, commercial pre-rinse spray valve, high-intensity discharge lamp ballast, illuminated exit sign, low voltage dry-type distribution transformer, single-voltage external AC to DC power supply, torchiere, traffic signal module, or unit heater may be sold or offered for sale in the state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to § 39-27-5.
- (b) On or after January 1, 2008, no new metal halide lamp fixture may be sold or offered for sale in the state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to § 39-27-5.
- (c) On or after January 1, 2010, no new automatic commercial icemaker, commercial refrigerator, refrigerator-freezer, or freezer or large packaged air conditioning equipment may be sold or offered for sale in the state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to § 39-27-5.
- (d) One year after the date upon which sale or offering for sale of certain products is limited pursuant to this section, no new products may be installed for compensation in the state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in the regulations adopted pursuant to § 39-27-5.

PART VII. REGISTRATION, TESTING, AND CERTIFICATION

- (a) The manufacturers of products covered by these Rules shall test samples of their products in accordance with the test procedures adopted pursuant to this chapter or those specified in the State Building Code. The chief of energy and community services, in consultation with the state building commissioner, shall adopt test procedures for determining the energy efficiency of the products covered in the regulations pursuant to

section 39-27-4 if such procedures are not provided for in this regulations pursuant to section 39-27-5 of this chapter or in the State Building Code, except that the test procedure for automatic commercial icemakers shall be the test standard specified by the Air Conditioning and Refrigeration Institute Standard 810-2003, as in effect on January 1, 2005. The chief of energy and community services shall use U.S. Department of Energy approved test methods, or in the absence of such test methods, other appropriate national recognized test methods. The chief of energy and community services may use updated test methods when new versions of test procedures become available. Following is a chart that describes the required test methods:

**Test Methods for Appliance Standards Included in Chapter 146;
Section 1, Title 39, Chapter 27**

Product	Test Method
Automatic Ice Maker	Air Conditioning and Refrigeration Institute Standard 810-2003
Commercial Clothes Washers	Test method shall be test method specified in 10 CFR Section 430.23(j) (Appendix J1 to Subpart B of Part 430)
Commercial Pre Rinse Spray Valves	Test method shall be the “Standard Test Method for Pre-Rinsed Spray Valves” from the American Society for Testing and Materials Standard F2324
Commercial Refrigerators	Test method shall be American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Standard 117-2002 “ Method of Testing Closed Refrigerators” (ANSI Approved)
High Intensity Discharge Lamp Ballasts	No test method required as this is a prescriptive standard
Illuminated Exit Signs	Test method shall be the method included under Version 2.0 of Energy Star program for Exit Signs of the Environmental Protection Agency
Large Packaged Air Conditioning Equipment	Test method shall be Air Conditioning and Refrigeration Institute Standard 340/360-2000- “Commercial and Industrial Unitary Air Conditioning and Heating Equipment” (ANSI Approved)
Low Voltage Dry Type Distribution Transformers	Test method shall be the “Standard Test Method for Measuring the Energy Consumption of Distribution Transformers” prescribed by the National Electrical Manufacturers Association (NEMA Standard TP-2-2005)
Metal Halide Lamp Fixtures	No test method required as this is a prescriptive standard
Single Voltage External AC to DC Power Supplies	Test method shall be the method specified in the U.S. Environmental Protection Agency’s “Energy Star Program Requirements for Single Voltage External Ac-Dc and Ac-Ac Power Supplies” as in effect on January 1, 2005 EXCEPT products do not have to be tested at 230 volts.
Torchiere Lamps	No test method for fixtures. For bulb, the test method shall be Illuminating Engineering Society (IES)LM-45
Traffic Signals	Test method shall be the method described in Energy Star Program of the Environmental Protection Agency for traffic signal modules in effect as of August 1, 2005.
Unit Heaters	No test method required as this is a prescriptive standard

(b) Manufacturers of new products covered by regulations adopted pursuant to section 39-27-4 of the chapter, except for single voltage external power supplies, shall certify by means of a certification statement to the chief of energy and community services or third-party as designated by the chief of energy and community services in guidelines that such products are in compliance with the provisions of the chapter. Such certifications shall be based on test results. The certification statement requirements shall be set forth in guidelines.

(c) The chief of energy and community services may test products covered by regulations adopted pursuant to section 39-27-4. If the products so tested are found not to be in compliance with the minimum efficiency standards established under regulations adopted pursuant to section 39-27-5, the chief of energy and community services shall:

1. charge the manufacturer of such products for the cost of product purchase and testing; and
2. make information available to the public on products found not to be in compliance with the standards.

(d) With prior notice and at reasonable and convenient hours, the chief of energy and community services may cause periodic inspections to be made of distributors or retailers of new products covered by regulations adopted pursuant to section 39-27-4 in order to determine compliance with the provisions of this chapter. The chief of energy and community services shall also coordinate in accordance with section 23-27.3-111.7 regarding inspection prior to occupancy of newly constructed buildings containing new products that are also covered by the State Building Code.

(e) The chief of energy and community services shall investigate complaints received concerning violations of this chapter. Any manufacturer, distributor or retailer who violates any provision of this chapter shall be issued a warning by the chief of energy and community services for any first violation. Repeat violations shall be subject to a civil penalty of not more than two hundred and fifty dollars (\$250). Each violation shall constitute a separate offense. Penalties assessed under this paragraph are in addition to costs assessed under paragraph (d) of this section.

PART VIII. NEW AND REVISED STANDARDS

The commission may adopt regulations, in accordance with the provisions of chapter 42-35, to establish increased efficiency standards for the products listed in the regulations adopted pursuant to section 39-27-4. In considering, such amended standards, the commission, in consultation with the chief of energy and community services, shall set efficiency standards upon a determination that increased efficiency standards would serve to promote energy conservation in the state and would be cost-effective for consumers who purchase and use such products; provided, that increased efficiency standards shall become effective within one year following adoption of any amended regulations establishing such increased efficiency standards.

PART IV. SEVERABILITY

- (a) The provisions of these Rules shall be severable and if the application of any clause, sentence, paragraph, subdivision, section or part of these Rules shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the application of any other clause, sentence, paragraph, subdivision, section or part of this chapter.
- (b) The provisions of these Rules shall be severable and if the application of any clause, sentence, paragraph, subdivision, section or part of these Rules shall be preempted by Federal Law, such preemption shall not affect, impair, or invalidate

the application of any other clause, sentence, paragraph, subdivision, section or part of this chapter.