122nd MAINE LEGISLATURE

FIRST REGULAR SESSION-2005

Legislative Document **No. 1435**

H.P. 999 House of Representatives, March 22, 2005

An Act Establishing Minimum Energy Efficiency Standards for Certain Products Sold or Installed in the State

Reference to the Committee on Utilities and Energy suggested and ordered printed.

Millicent M. MacFarland

MILLICENT M. MacFARLAND
Clerk

Presented by Representative EBERLE of South Portland.
Cosponsored by Senator TURNER of Cumberland and
Representatives: BLISS of South Portland, BRAUTIGAM of Falmouth, FLETCHER of Winslow, KOFFMAN of Bar Harbor, MUSE of Fryeburg, PINGREE of North Haven, RECTOR of Thomaston, THOMPSON of China.

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 35-A MRSA c. 36 is enacted to read:

CHAPTER 36

ENERGY EFFICIENCY STANDARDS

§3601. Definitions

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.

1. AC. "AC" means alternating current.

2. Automatic commercial ice-maker. "Automatic commercial ice-maker" means a factory-made assembly 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 or dispense ice. This term includes machines with ice-making capacities from 50 to 2,500 lbs. per 24 hours.

3. Ballast. "Ballast" means a device used with an electric discharge lamp to obtain necessary voltage, current and wave form for starting and operating the lamp.

4. BTU. "BTU" has the same meaning as in Title 10, section 1413.

5. Ceiling fan. "Ceiling fan" means a nonportable device that is suspended from a ceiling for circulating air via the rotation of fan blades.

6. Ceiling fan light kit. "Ceiling fan light kit" means equipment designed to provide light from a ceiling fan that can be:

A. Integral, such that the equipment is hardwired to the ceiling fan; or

B. Attachable, such that at the time of sale the equipment is not physically attached to the ceiling fan but may be included inside the ceiling fan package or sold separately for subsequent attachment to the fan.

7. Commercial clothes washer. "Commercial clothes washer" means a soft mount horizontal-axis or vertical-axis clothes washer that:

A. Has a clothes container compartment no greater than 3.5 cubic feet in the case of a horizontal-axis product and no

greater than 4.0 cubic feet in the case of a vertical-axis product; and

B. Is designed for use by more than one household, such as in multifamily housing, apartments or coin laundries.

8. Commercial prerinse spray valve. "Commercial prerinse spray valve" means a hand-held device that is designed and marketed for use with commercial dishwashing and ware washing equipment and that sprays water for the purpose of removing food residue prior to cleaning.

9. Commercial refrigerator, freezer or refrigerator-freezer. "Commercial refrigerator, freezer or refrigerator-freezer" means self-contained refrigeration equipment that:

A. Is not a consumer product as regulated pursuant to 42 United States Code, Section 6291 et seq.;

B. Operates at a chilled, frozen, combination of chilled and frozen or variable temperature for the purpose of storing or merchandising food, beverages or ice;

C. May have transparent or solid hinged doors, sliding doors or a combination of hinged and sliding doors; and

D. Incorporates most components involved in the vapor-compression cycle and the refrigerated compartment in a single cabinet.

This term does not include units with 85 cubic feet or more of internal volume, walk-in refrigerators or freezers, units with no doors or freezers specifically designed for ice cream.

10. DC. "DC" means direct current.

11. Digital television adapter. "Digital television adapter" means an electronic product for which the sole purpose is the conversion of digital video terrestrial broadcast signals to analog video signals for use by an analog device such as a television. This term does not include cable or satellite television set-top boxes.

12. Electricity ratio. "Electricity ratio" is the ratio of furnace electricity use to total furnace energy use.

13. Furnace air handler. "Furnace air handler" means the section of the furnace that is generally upstream of the burners

and heat exchanger and may include the fan, blower, filter or housing or any combination of those elements.

14. High-intensity discharge lamp. "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 3 watts per square centimeter.

15. Illuminated exit sign. "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.

16. Large packaged air-conditioning equipment. "Large packaged air-conditioning equipment" means electrically operated, air-cooled air-conditioning and air-conditioning heat pump equipment that has a cooling capacity of at least 240,000 BTUs per hour but less than 760,000 BTUs per hour and that is built as a package and shipped as a whole to end-user sites.

17. Low-voltage dry-type distribution transformer. "Low-voltage dry-type distribution transformer" means a distribution transformer that:

A. Has an input voltage of 600 volts or less;

B. Is air-cooled;

C. Does not use oil as a coolant; and

D. Is rated for operation at a frequency of 60 hertz.

18. Medium-voltage dry-type distribution transformer. "Medium-voltage dry-type distribution transformer" means a distribution transformer that:

A. Has an input voltage of more than 600 volts but less than 34,500 volts;

B. Is air-cooled;

C. Does not use oil as a coolant; and

D. Is rated for operation at a frequency of 60 hertz.

19. Metal halide lamp. "Metal halide lamp" means a high-intensity discharge lamp in which the major portion of the light is produced by the radiation of metal halides and their products of dissociation, possibly in combination with metallic vapors.

20. Metal halide lamp fixture. "Metal halide lamp fixture" means a light fixture designed to be operated with a metal halide lamp and a ballast for a metal halide lamp.

21. Probe-start metal halide ballast. "Probe-start metal halide ballast" means a ballast used to operate metal halide lamps that does not contain an ignitor and instead starts lamps by using a 3rd starting electrode "probe" in the arc tube.

22. Pulldown refrigerator. "Pulldown refrigerator" means a commercial refrigerator specifically designed to rapidly reduce, when fully loaded with beverage containers, all integrated product temperatures from 90 degrees Fahrenheit to 38 degrees Fahrenheit over a 12-hour period.

23. Residential boiler. "Residential boiler" means a self-contained appliance for supplying steam or hot water primarily intended for space heating that uses only single-phase electric current or single-phase electric current or direct current in conjunction with natural gas, propane or home heating oil and that:

A. Is designed to be the principal heating source for the living space of one or more residences;

B. Has a heat input rate of less than 300,000 BTUs per hour; and

C. Is not an appliance designed for the primary purpose of supplying hot water for purposes other than heating.

24. Residential furnace. "Residential furnace" means a self-contained space heater designed to supply heated air through ducts of more than 10 inches in length that uses only single-phase electric current or single-phase electric current or direct current in conjunction with natural gas, propane or home heating oil and that:

A. Is designed to be the principal heating source for the living space of one or more residences;

B. Is not contained within the same cabinet as a central air conditioner whose rated cooling capacity is above 65,000 BTUs per hour; and

C. Has a heat input rate of less than 225,000 BTUs per hour.

25. Single-voltage external AC-to-DC power supply. "Single-voltage external AC-to-DC power supply" means a device that:

A. Is designed to convert line voltage AC input into lower voltage DC output;

B. Is able to convert to only one DC output voltage at a time;

C. Is sold with or intended to be used with a separate end-use product that constitutes the primary power load;

D. Is contained within a separate physical enclosure from the end-use product;

E. Is connected to the end-use product through a removable or hard-wired electrical connection, cable, cord or other wiring;

F. Does not have batteries or battery packs, including those that are removable, that physically attach directly to the power supply unit;

G. Does not have a battery chemistry or type selector switch and indicator light and does not have a battery chemistry or type selector switch and a state of charge meter; and

H. Has a nameplate output power less than or equal to 250 watts.

26. State-regulated incandescent reflector lamp. "State-regulated incandescent reflector lamp" means a lamp that is not colored or designed for rough or vibration service applications; that has an inner reflective coating on the outer bulb to direct the light, an E26 medium screw base and a rated voltage or voltage range that lies at least partially within 115 to 130 volts; and that falls into one of the following categories:

A. A bulged reflector or elliptical reflector bulb shape that has a diameter that equals or exceeds 2.25 inches; and

B. A reflector or parabolic aluminized reflector or similar bulb shape that has a diameter of 2.25 to 2.75 inches.

27. Torchiere lighting fixture. "Torchiere lighting fixture" 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 lighting fixture may include downward-directed lamps in addition to the upward, indirect illumination.

28. Traffic signal module. "Traffic signal module" means a standard 8-inch or 12-inch traffic signal indicator consisting of a light source, a lens and all other parts necessary for operation.

29. Transformer. "Transformer" means a device consisting of 2 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. "Transformer" does not include either:

A. Transformers with multiple voltage taps, with the highest voltage tap equaling at least 20 percent more than the lowest voltage tap; or

B. Transformers that are designed to be used in a special-purpose application and are unlikely to be used in general-purpose applications, 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.

30. Unit heater. "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 "unit heater" does not include any products covered by federal standards established pursuant to 42 United States Code, Section 6291 and subsequent sections or any product that is a direct-vent, forced-flue heater with a sealed combustion burner.

§3602. Scope

1. Application. Except as provided in subsection 2, the provisions of this chapter apply to the testing, certification and enforcement of energy efficiency standards for the following types of new products that are sold, offered for sale or installed in the State and are referred to in this chapter as "covered products":

A. Automatic commercial ice makers;

B. Ceiling fans and ceiling fan light kits;

C. Commercial clothes washers;

D. Commercial prerinse spray valves;

E. Commercial refrigerators and freezers;

F. Digital television adapters;

G. Residential boilers and residential furnaces;

H. Furnace air handlers;

I. High-intensity discharge lamp ballasts;

J. Illuminated exit signs;

K. Large packaged air-conditioning equipment;

L. Low-voltage dry-type distribution transformers;

M. Medium-voltage dry-type distribution transformers;

N. Metal halide lamp fixtures;

O. Single-voltage external AC-to-DC power supplies;

P. State-regulated incandescent reflector lamps;

Q. Torchiere lighting fixtures;

R. Traffic signal modules;

S. Unit heaters; and

T. Such other products as may be designated by the commission in accordance with section 3605.

2. Exclusions. The provisions of this chapter do not apply to:

A. New products manufactured in the State and sold outside the State;

B. New products manufactured outside the State and sold at wholesale inside the State for final retail sale and installation outside the State;

C. Products installed in mobile manufactured homes at the time of construction; and

D. Products designed expressly for installation and use in recreational vehicles.

§3603. Rulemaking; energy efficiency standards

No later than January 1, 2006, the commission shall adopt rules establishing minimum efficiency standards for sale and installation of covered products.

§3604. Implementation of energy efficiency rules; varying effective dates

1. Products sold on or after January 1, 2007; products installed on or after January 1, 2008. The following covered products may not be sold or offered for sale as new in the State on or after January 1, 2007 or installed for compensation in the State on or after January 1, 2008 unless the efficiency of the product meets or exceeds the efficiency standards set forth in the rules adopted pursuant to section 3603:

A. Ceiling fan;

B. Ceiling fan light kit;

C. Commercial clothes washer;

D. Commercial prerinse spray valve;

E. Digital television adapter;

F. High-intensity discharge lamp ballast;

G. Illuminated exit sign;

H. Low-voltage dry-type distribution transformer;

I. Single-voltage external AC-to-DC power supply;

J. State-regulated incandescent reflector lamp;

K. Torchiere lighting fixture;

L. Traffic signal module; and

M. Unit heater.

2. Products sold on or after January 1, 2008; products installed on or after January 1, 2009. The following covered products may not be sold or offered for sale as new in the State on or after January 1, 2008 or installed for compensation in the State on or after January 1, 2009 unless the efficiency of the product meets or exceeds the efficiency standards set forth in the rules adopted pursuant to section 3603:

A. Automatic commercial ice maker;

B. Medium-voltage dry-type distribution transformer; and

C. Metal halide lamp fixture.

3. Products sold on or after January 1, 2010; products installed on or after January 1, 2011. The following covered products may not be sold or offered for sale as new in the State on or after January 1, 2010 or installed for compensation in the State on or after January 1, 2011 unless the efficiency of the product meets or exceeds the efficiency standards set forth in the rules adopted pursuant to section 3603:

A. Commercial refrigerator or freezer; and

B. Large packaged air-conditioning equipment.

For purposes of this section, "compensation" means money or any other valuable, regardless of form, received or to be received by a person for services rendered.

§3605. New and revised standards

The commission may by rule establish standards higher than the minimum energy efficiency standards for covered products and may establish standards for products not specifically listed in section 3602. The commission may revise a standard or add a new standard for other products upon determination that the standard would serve to promote energy conservation in the State and would be cost-effective for consumers who purchase and use such products. A new or increased energy efficiency standard adopted by the commission may not take effect less than one year following the adoption of the rule establishing the new or increased energy efficiency standard. The commission may apply for a waiver of federal preemption in accordance with federal procedures under 42 United States Code, Section 6297(d) for those products regulated by the Federal Government.

§3606. Testing, certification, labeling and enforcement

1. Testing. The commission shall adopt procedures for testing the energy efficiency of covered products. The commission shall use United States Department of Energy approved test methods or, in the absence of such test methods, other appropriate nationally recognized test methods. The manufacturers of such products shall cause samples of the products to be tested in accordance with the test procedures adopted pursuant to this subsection.

2. Certification. Manufacturers of covered products, except for single-voltage external AC-to-DC power supplies and high-intensity discharge lamp ballasts, shall certify to the commission that such products are in compliance with the provisions of this chapter. Such certifications must be based on test results. The commission shall adopt rules governing the certification of such products and may work in coordination with the certification programs of other states with like standards.

3. Identification. Manufacturers of covered products, except for high-intensity discharge lamp ballasts, shall identify each product offered for sale or installed in the State as being in compliance with the provisions of this chapter by means of a mark, label or tag on the product and packaging at the time of sale or installation. The commission shall adopt rules governing the identification of such products and packaging and may coordinate the rules with the labeling programs of other states with like standards.

4. Commission testing. The commission may test covered products using an accredited testing facility. If products so tested are found to be not in compliance with the minimum energy efficiency standards established under section 3603, the commission shall:

A. Charge the manufacturer of such a product for the cost of product purchase and testing; and

B. Provide information to the public on the product found to be not in compliance with the standards.

5. Inspections. With prior notice and at reasonable and convenient hours, the commission may make periodic inspections of distributors or retailers of covered products to determine compliance with the provisions of this chapter. The commission shall work with the Department of Administrative and Financial Services to coordinate inspections of covered products that are installed as part of public improvements as defined in Title 5, section 1741.

6. Investigations; enforcement. The commission shall investigate complaints concerning violations of this chapter and shall report the results of such investigations to the Attorney General. The Attorney General may institute proceedings to enforce the provisions of this chapter. A manufacturer, distributor or retailer that violates any provision of this chapter must be issued a warning for a first violation and for any subsequent violation is subject to a civil fine of not more than $250. Each violation constitutes a separate offense, and each day the violation continues constitutes a separate offense. Fines assessed under this subsection are in addition to costs assessed under subsection 4.

7. Rules. The commission may adopt rules necessary to ensure the proper implementation and enforcement of the provisions of this chapter. Rules adopted under this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 2. Rulemaking; establishment of efficiency standards. The Public Utilities Commission shall adopt rules pursuant to the Maine Revised Statutes, Title 35-A, section 3603 that establish the following minimum energy efficiency standards.

1. Automatic commercial ice makers must meet or exceed the energy efficiency requirements shown in Table A-7 of section 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. Ceiling fans must:

A. Include lighting controls that are separate from fan speed controls;

B. Be equipped with adjustable speed controls; and

C. Have the capability of reversible fan action, except that this requirement does not apply to fans designed for industrial applications, fans designed for outdoor applications and fans designed for applications where safety standards would be violated by use of the reversible mode.

3. Ceiling fan light kits must:

A. Meet or exceed the requirements of the United States Environmental Protection Agency's Energy Star Program for Residential Light Fixtures (Version 3.1) and be packaged with lamps to fill all sockets;

B. Be packaged with screw-based compact fluorescent lamps to fill all sockets, with such lamps satisfying the Energy Star Program Requirements for Compact Fluorescent Lamps (Version 3.0); or

C. Use and be packaged with light sources other than compact fluorescent lamps that meet or exceed the minimum efficacy requirements, as measured in lumens per watt, of the Energy Star Program Requirements for Compact Fluorescent Lamps (Version 3.0).

4. Commercial clothes washers must meet or exceed the requirements shown in Table P-4 of section 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.

5. Commercial prerinse spray valves must have a flow rate less than or equal to 1.6 gallons per minute.

6. Commercial refrigerators, freezers and refrigerator-freezers must meet or exceed the minimum efficiency requirements shown in Table A-6 of section 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 must meet or exceed a requirement 5% less stringent than shown in the California regulations.

7. Digital television adapters may not use more than one watt in "standby-passive" mode and may not use more than 8 watts in "on" mode.

8. Residential furnaces and boilers must meet or exceed the following annual fuel use efficiency values:

A. For natural gas-fired and propane-fired furnaces, a minimum efficiency level of 90%;

B. For oil-fired furnaces, a minimum efficiency level of 83%;

C. For natural gas-fired and propane-fired hot water boilers, a minimum efficiency level of 84%;

D. For oil-fired hot-water boilers, a minimum efficiency level of 84%;

E. For natural gas-fired and propane-fired steam boilers, a minimum efficiency level of 82%; and

F. For oil-fired steam boilers, a minimum efficiency level of 82%.

The commission may adopt rules to exempt compliance with furnace or boiler standards at any building, site or location if compliance with those standards would conflict with any local zoning ordinance, building or plumbing code or other rule regarding installation and venting of boilers or furnaces.

9. Furnace air handlers must have an efficiency ratio of 2.0 percent or less, except that air handlers for oil-fired furnaces with a capacity of less than 94,000 BTUs per hour must have an efficiency ratio of 2.3 percent or less.

10. High-intensity discharge lamp ballasts may not be designed or marketed to operate a mercury vapor lamp.

11. Illuminated exit signs must have an input power demand of 5 watts or less per illuminated face.

12. Large packaged air-conditioning equipment must meet or exceed the following minimum energy efficiency ratios:

A. For air conditioning without an integrated heating component or with electric resistance heating integrated into the unit, a minimum energy efficiency ratio of 10.0;

B. For air conditioning with heating other than electric resistance integrated into the unit, a minimum energy efficiency ratio of 9.8;

C. For air-conditioning heat pumps without an integrated heating component or with electric resistance heating integrated into the unit, a minimum energy efficiency ratio of 9.5; and

D. For air-conditioning heat pump equipment with heating other than electric resistance integrated into the unit, a minimum energy efficiency ratio of 9.3.

Large packaged air-conditioning heat pumps must meet a minimum coefficient of performance in the heating mode of 3.2.

13. Low-voltage dry-type distribution transformers must meet or exceed 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).

14. Medium-voltage dry-type distribution transformers must meet or exceed minimum efficiency levels 3/10 of a percentage point higher than the Class 1 efficiency levels for medium-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).

15. 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 may not contain a probe-start metal halide lamp ballast.

16. Single-voltage external AC-to-DC power supplies must meet or exceed the Tier 1 energy efficiency requirements shown in Table U-1 of section 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. 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.

17. State-regulated incandescent reflector lamps must meet or exceed the minimum average lamp efficacy requirements for federally regulated incandescent reflector lamps contained in 42 United States Code, Section 6295 (i)(1)(A). This requirement does not apply to 50-watt elliptical reflector lamps.

18. Torchiere lighting fixtures may not use more than 190 watts. A torchiere lighting fixture is deemed to use more than 190 watts if any commercially available lamp or combination of lamps can be inserted in its socket or sockets and cause the torchiere lighting fixture to draw more than 190 watts when operated at full brightness.

19. Traffic signal modules must meet or exceed the product specification of the Energy Star Program Requirements for Traffic Signals developed by the United States Environmental Protection Agency, which took effect in February 2001. Traffic signal modules must be installed with compatible, electrically connected signal control interface devices and conflict monitoring systems

20. Unit heaters must be equipped with an intermittent ignition device and must have either power venting or an automatic flue damper.

Sec. 3. Review of other states' laws. No later than January 1, 2006, the Public Utilities Commission shall determine for each covered product, as defined in the Maine Revised Statutes, Title 35-A, section 3602, whether at least 3 states other than Maine have established efficiency standards that are as stringent as those set forth for that product in section 2 of this Act. If the commission determines that such standards for a covered product have not been established by at least 3 states other than Maine, the Public Utilities Commission shall submit emergency legislation to the Second Regular Session of the 122nd Legislature to amend the effective date contained in Title 35-A, section 3604 for that product by advancing the relevant effective date by one year.

Sec. 4. Review of federal law. No later than June 1, 2006, the Public Utilities Commission, in consultation with the Attorney General, shall determine whether implementation of state standards for residential boilers, furnaces or furnace air handlers requires a waiver from federal preemption. If the Public Utilities Commission determines that such a waiver is not needed, the commission shall submit emergency legislation to the Second Regular Session of the 122nd Legislature to implement minimum energy efficiency standards for residential boilers, furnaces or furnace air handlers to take effect on June 1, 2008. If the commission determines that a waiver from federal preemption is required for residential boilers, furnaces or furnace air handlers, the commission shall apply for any necessary waiver and submit legislation to implement minimum energy efficiency standards for residential boilers, furnaces or furnace air handlers to take effect at the earliest date permitted by federal law.

SUMMARY

This bill sets minimum energy efficiency standards for certain products sold or installed in Maine, including exit signs, traffic signals and ceiling fans.

This bill authorizes the Public Utilities Commission to establish higher energy efficiency standards and to adopt standards for additional products and directs the Public Utilities Commission to monitor and enforce compliance with the standards.