HOUSE . . . . . No. 3328

By Mr. Patrick of Falmouth, petition of Matthew C. Patrick and others relative to establishing minimum energy efficiency standards for certain products. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

PETITION OF:

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In the Year Two Thousand and Five.

AN ACT ESTABLISHING A MINIMUM ENERGY EFFICIENCY STANDARD FOR CERTAIN PRODUCTS.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Section 2 of chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by adding the following new definitions:—

"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, ant that may store or dispense ice. This term includes machines with capacities between and including 50 and 2500 lbs. per 24 hours;

"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;

"Ceiling fan", means a non-portable device that is suspended from a ceiling for circulating air via the rotation of fan blades;

"Ceiling fan light kit", means the equipment used to provide light from a ceiling fan. This equipment can be: (1) integral such that the ceiling fan light kit is hardwired to the ceiling fan, or (2) attachable such that the ceiling fan light kit is not, at the time of sale, physically attached to the fan. Attachable ceiling fan light kits might be included inside the ceiling fan package at the time of sale or sold separately for subsequent attachment to the fan;

"Commercial clothes washer", means a soft mount front-loading or soft mount top-loading clothes washer that is designed for use in (1) applications where the occupants of more than one household will be using it, such as multi-family housing common areas and coin laundries; or (2) other commercial applications, if the clothes container compartment is no greater than 3.5 cubic feet for horizontal-axis clothes washers, or no greater then 4.0 cubic feet for vertical-axis clothes washers;

"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;

"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 section 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) incorpo-

rates most components involved in the vapor-compression cycle and the refrigerated compartment in a single cabinet. This term does not include: (1) units with 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;

"Commissioner", means the Commissioner of the Department of Energy Resources;

"Compensation", means money or any other valuable thing, regardless of form, received or to be received by a person for services rendered;

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

"Electricity ratio (ER)", is the ratio of furnace electricity use to total furnace energy use. ER = (3.412*EAE)/(1000*EF + 3.412*EAE) where EAE and EF are defined in 10 CFR Part 430;

"Boiler" means a space heater that is a self-contained appliance for supplying steam or hot water primarily intended for space-heating. "Boiler" does not include hot water supply boilers;

"Central furnace" means a self-contained space heater designed to supply heated air through ducts of more than 10 inches length;

"Residential furnace or boiler", means a product which utilizes only single-phase electric current, or single-phase electric current or DC current in conjunction with natural gas, propane, or home heating oil, and which–

(1) is designed to be the principle heating source for the living space of a residence;

(2) is not contained within the same cabinet with a central air conditioner whose rated cooling capacity is above 65,000 Btu per hour;

(3) is an electric central furnace, electric boiler, forced-air central furnace, gravity central furnace, or low pressure steam or hot water boiler; and

(4) has a heat input rate of less than 300,000 Btu per hour for electric boilers and low pressure steam or hot water boilers and

less than 225,000 Btu per hour for forced-air central furnaces, gravity central furnace, and electric central furnaces;

"Furnace air handler", means the section of the furnace that includes the fan, blower, filter (usually), and housing, generally upstream of the burners and heat exchanger. In many residential applications, the air handler includes a cooling coil;

"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 watts per square centimeter;

"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;

"Large packaged air-conditioning equipment", means electrically-operated, air-cooled air-conditioning and air-conditioning heat pump equipment having cooling capacity greater than or equal to 240,000 Btu/hour but less than 760,000 Btu/hr that is built as a package and shipped as a whole to end-user sites;

"Medium voltage dry-type distribution transformer", means a transformer that: (1) has an input voltage of more than 600 volts but 34,500 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 60 Hertz;

"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;

"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;

"Probe-start metal halide ballast", means a ballast used to operate metal halide lamps which does not contain an ignitor and which instead starts lamps by using a third starting electrode "probe" in the arc tube;

"Pulldown refrigerator", means a commercial refrigerator specifically designed to rapidly reduce all integrated product tem-

peratures from 90 degrees F to 38 degrees F over a 12 hour period (e.g. a reduction of 4.3 degrees F per hour) when fully loaded with beverage containers;

"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 only 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 does not have a battery chemistry or type selector switch and a state of charge meter;

(8) has a nameplate output power less than or equal to 250 watts;

"State-regulated incandescent reflector lamp", means a lamp which 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:

(1) a bulged reflector (BR) or elliptical reflector (ER) bulb shape and which has a diameter which equals or exceeds 2.25 inches;

(2) a reflector (R), parabolic aluminized reflector (PAR), bulged reflector (BR) or similar bulb shape and which has a diameter of 2.25 to 2.75 inches;

"Torchiere fixture", means a portable electric lighting fixture with a reflector bowl giving light directed upward so as to give indirect illumination. A torchiere may include downward directed lamps in addition to the upward, indirect illumination;

"Traffic signal module", means a standard 8-inch (200mm) or 12-inch (300mm) round traffic signal indication. It consists of a light source, lens, and all parts necessary for operation and communicates movement messages to drivers through red, amber and green colors. Arrow modules in the same colors are used to indicate turning movements;

"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 20 percent 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 non-ventilating 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;

"Unit heater", means a self-contained fan-type heater that uses natural gas, propane or fuel oil and that is designed to be installed without ducts within a heated space. Unit heaters include an apparatus or appliance to supply heat, and a fan for circulating air over a heat exchange surface, all enclosed in a common casing. Unit heaters do not include "warm air furnaces" as specifically defined under the federal Energy Policy Act of 1992 (Public Law 102486). Unit heaters do not include a product regulated by federal standards pursuant to 42 USC 6291, as amended from time to time; a product that is a direct vent, forced flue heater with a sealed-combustion burner, or any oil fired heating system.

SECTION 2. Section 3 of chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by adding at the end of subdivision (e) the following types of new appliances:—

(f) automatic commercial ice makers

(g) ceiling fans

(h) ceiling fan light kits

(i) commercial clothes washers
(j) commercial pre-rinse spray valves
(k) commercial refrigerators, freezers and refrigerator-freezers
(l) digital television adapters
(m) furnaces
(n) furnace air handlers
(o) illuminated exit signs
(p) large packaged air-conditioning equipment
(q) medium voltage dry-type distribution transformers
(r) metal halide lamp fixtures
(s) single-voltage external AC to DC power supplies
(t) state-regulated incandescent reflector lamps
(u) torchieres
(v) traffic signal modules
(w) unit heaters
(x) such other products as may be designated by the Commissioner.

SECTION 3. Section 4 of Chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by striking the first paragraph and inserting in their place the following section:—

Not later than June 1, 2006, the Commissioner, in consultation with the heads of other appropriate agencies, shall adopt regulations, in accordance with the provisions of this act, establishing minimum energy efficiency standards for the types of new products set forth in section three.

The regulations shall provide for the following minimum efficiency standards:

(1) Automatic commercial ice makers shall meet the energy efficiency requirements of section 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations.

(2) Ceiling fans shall have (A) lighting controls separate from fan speed controls; (B) adjustable speed controls (either more than one speed or variable speeds), and (C) the capability of reversible fan action except fans designed for industrial applications; fans designed for outdoor applications, and; fans designed for applica-

tions where safety standards would be violated by use of the reversible mode.

(3) Ceiling fan light kits shall (A) meet the requirements of the U.S. 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 meeting 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 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 shall meet the requirements shown in section 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations.

(5) Commercial pre-rinse spray valves shall have a flow rate equal to or less than 1.6 gallons per minute.

(6) Commercial refrigerators, freezers and refrigerator-freezers shall meet the minimum efficiency requirements shown in the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations except that pulldown refrigerators with transparent doors shall meet a requirement five percent less stringent than shown in the California regulations.

(7) Digital television adapters shall not use more than 1 watt in standby-passive mode and shall not use more than 8 watts in on mode.

(8) Residential furnaces and boilers shall meet or exceed the following Annual Fuel Utilization Efficiency (AFUE):

Product Type	Minimum Efficiency Level
Gas and propane furnaces	90% AFUE
Oil furnaces	83% AFUE
Gas and propane hot water boilers	84% AFUE
Oil-fired hot water boilers	84% AFUE
Gas and propane steam boilers	82% AFUE
Oil-fired steam boilers	82% AFUE

The Commissioner may adopt rules to exempt compliance with said furnace or boiler standards at any building, site or location where complying with said standards would be in 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 shall have an ER of 2.0 or less except air handlers for oil furnaces with a capacity of less than 94,000 Btu per hour shall have an ER of 2.3 or less.

(10) Illuminated exit signs shall have an input power demand of five watts or less per illuminated face.

(11) 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 heat pumps without an 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 3.2 (measured at a high temperature rating of 47 degrees F db).

(12) Medium voltage dry-type distribution transformers shall meet minimum efficiency levels three-tenths 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).

(13) 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 not contain a probe-start metal halide lamp ballast.

(14) Single-voltage external AC to DC power supplies shall meet the tier one energy efficiency requirements of section 1605.3 of the California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4: Appliance Efficiency Regulations. 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

(15) State-regulated incandescent reflector lamps shall meet the minimum average lamp efficacy requirements for federally-regulated incandescent reflector lamps contained in 42 U.S. Code 6295 (i)(1)(A). 50 Watt ER lamps are exempted from these requirements.

(16) Torchieres shall not use more than 190 watts. A torchiere shall be deemed to use more than 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 190 watts when operated at full brightness.

(17) 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, electrically-connected signal control interface devices and conflict monitoring systems.

(18) Unit heaters shall be equipped with an intermittent ignition device and shall have either power venting or an automatic flue damper.

On or after January 1, 2007, no new ceiling fan, ceiling fan light kit, commercial clothes washer, commercial pre-rinse spray valve, commercial refrigerator or freezer, digital television adapter, 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 this section. On or after January 1, 2008, no new automatic commercial ice maker, medium voltage dry-type distribution transformer, state-regulated incandescent reflector lamp or 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 this section. On or after January 1, 2010, no new commercial refrigerator 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 this section. The commissioner, in consultation with the Attorney

General, shall determine if implementation of state standards for furnaces and furnace air handlers requires a waiver from federal preemption, and shall apply for such waivers if necessary. If the Commissioner determines that a waiver from federal preemption is necessary for furnaces, furnace air handlers, or both, the state standard shall go into effect at the earliest date permitted by federal law. If the commissioner determines that a waiver from federal preemption is not needed for furnaces, furnace air handlers or both, then such state standards shall go into effect on June 1, 2008.

One year after the date upon which sale or offering for sale of certain products is limited pursuant to the preceding paragraph of 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 this section.

SECTION 4. Section 5 of Chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by inserting the following new paragraph after subsection (1):—

The Commissioner may establish increased efficiency standards on the products listed in section three. The Commissioner may also establish standards for products not specifically listed in section three. In considering such new or amended standards, the Commissioner, in consultation with the heads of the appropriate departments, 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 the users, as a group, of the covered appliance, provided no new or increased efficiency standards shall become effective within one year following the adoption of any amended regulations providing for such increased efficiency standards. The Commissioner may apply for a waiver of federal preemption in accordance with federal procedures (see 42 U.S. Code 6297 (d)) for those products regulated by the federal government. The Commissioner may adopt such further regulations as necessary to implement the provisions of this section.

SECTION 5. Section 6 of Chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by striking, in sentences three and ten, the word "plumbing" and inserting the word "building" in its place, and inserting the following paragraphs at the end of subsection (1):—

The manufacturers of products covered by this Act shall test samples of their products in accordance with the test procedures adopted pursuant to this Act or those specified in the State Building Code. The Commissioner, in consultation with heads of other appropriate departments, shall adopt test procedures for determining the energy efficiency of the products covered by Section 4 if such procedures are not provided for in section 5 of this Act or in the State Building Code. The Commissioner shall adopt U.S. Department of Energy approved test methods, or in the absence of such test methods, other appropriate nationally recognized test methods. The Commissioner may adopt updated test methods when new versions of test procedures become available.

The Commissioner may test products covered by section three using an accredited testing facility. If products so tested are found not to be in compliance with the minimum efficiency standards established under section four, the Commissioner shall: (1) charge the manufacturer of such product for the cost of product purchase and testing, and (2) provide information to the public on products found not to be in compliance with the standards.

Manufacturers of new products covered by Section 4 of this Act, except for single voltage external AC to DC power supplies, shall certify to the Commissioner that such products are in compliance with the provisions of this Act. Such certifications shall be based on test results. The Commissioner shall promulgate regulations governing the certification of such products and coordinate with the certification programs of other states and federal agencies with similar standards.

The Commissioner may cause periodic inspections to be made of distributors or retailers of new products covered by section three in order to determine compliance with the provisions of this Act. The Commissioner may also work with the head of building code administration to coordinate on inspections for new products that are also covered by state building code.

SECTION 6. Section 7 of Chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by inserting the following paragraph at the end of subsection (1):—

Manufacturers of new products covered by section three shall identify each product offered for sale or installed in the state as in compliance with the provisions of this Act by means of a mark, label, or tag on the product and packaging at the time of sale or installation. The Commissioner shall promulgate regulations governing the identification of such products and packaging, which shall be coordinated to the greatest practical extent with the labeling programs of other states and federal agencies with equivalent efficiency standards. The Commissioner shall allow the use of existing marks, labels or tags which connote compliance with the efficiency requirements of this act.

SECTION 7. Section 8 of Chapter twenty-five B of the General Laws, as appearing in the 2000 Official Edition, is hereby amended by inserting the following paragraph at the end of subsection (1):—

The Commissioner shall cause investigations to be made of complaints received concerning violations of this Act and shall report the results of such investigations to the Attorney General. The Attorney General may institute proceedings to enforce the provisions of this Act. Any manufacturer, distributor or retailer who violates any provision of this Act shall be issued a warning by the Commissioner for any first violation. Repeat violations shall be subject to a civil penalty of not more than two hundred fifty dollars. Each violation shall constitute a separate offense; each day that such violation continues shall constitute a separate offense. Penalties assessed under this paragraph are in addition to costs assessed under section five of this Act. The Commissioner shall also work with the head of building code administration to coordinate on inspections for new products that are also covered by the State Building Code.

SECTION 8. Section 8 of Chapter twenty-five B of the General Laws is hereby amended by adding the following subsection in between subsections (1) and (2):—

The Commissioner is hereby granted the authority to adopt such further regulations as necessary to ensure the proper implementation and enforcement of the provisions of this Act. The provisions of this Act shall be severable and if the application of any clause, sentence, paragraph, subdivision, section or part of this Act shall be adjudged by any court of competent jurisdiction, section or part of this Act 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 Act.