SENATE BILL No. 7

January 10, 2007, Introduced by Senator BRATER and referred to the Committee on Energy Policy.

A bill to establish minimum efficiency standards for certain products sold or installed in the state; to prescribe the powers and duties of certain state agencies and officials; and to provide for penalties.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

Sec. 1. The legislature finds all of the following:

(a) That efficiency standards for certain products sold or installed in the state assure consumers and businesses that the products meet minimum efficiency performance levels thus saving money on utility bills.

(b) That efficiency standards save energy and reduce pollution and other environmental impacts associated with the production, distribution, and use of electricity, natural gas, and oil.

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(c) That efficiency standards can make electricity systems more reliable by reducing the strain on the electricity grid during peak demand periods. Improved energy efficiency can reduce or delay the need for new power plants, power transmission lines, and power distribution system upgrades.

(d) Energy efficiency standards contribute to the economy of this state by helping to better balance energy supply and demand, thus reducing pressure for higher natural gas and electricity prices. By saving consumers and businesses money on energy bills, efficiency standards help the state and local economy, since energy bill savings can be spent on local goods and services.

Sec. 2. As used in this act:

(a) "Ballast" means a device used with an electric discharge lamp to obtain necessary circuit conditions, such as voltage, current, and waveform, for starting and operating the lamp.

(b) "Boiler" means a self-contained low-pressure appliance for supplying steam or hot water primarily designed for space heating. Commercial boiler means a boiler with a heat input rate of 300,000 btu per hour or more that is shipped complete with heating equipment, mechanical draft equipment, and automatic controls. Commercial boiler includes a factory-built boiler manufactured as a unit or system, disassembled for shipment, and reassembled at the site of installation. Residential boiler means a self-contained appliance for supplying steam or hot water, which uses natural gas, propane, or home heating oil, and which has a heat input rate of less than 300,000 btu per hour.

(c) "Bottle-type water dispenser" means a water dispenser

that uses a bottle or reservoir as the source of potable water.

(d) "Commercial hot food holding cabinet" means an appliance that is a heated, fully-enclosed compartment with 1 or more solid doors, and that is designed to maintain the temperature of hot food that has been cooked in a separate appliance. Commercial hot food holding cabinet does not include heated glass merchandising cabinets, drawer warmers, or cook-and-hold appliances.

(e) "Commission" means the Michigan public service commission.

(f) "Compact audio product", also known as a mini, mid, micro, or shelf audio system, means an integrated audio system encased in a single housing that includes an amplifier and radio tuner, attached or separable speakers, and can reproduce audio from magnetic tape, CD, DVD, or flash memory. Compact audio product does not include products that can be independently powered by internal batteries or that have a powered external satellite antenna or that can provide a video output signal.

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

(h) "Digital versatile disc" and "DVD" mean a laser-encoded plastic medium capable of storing a large amount of digital audio, video, and computer data.

(i) "Digital versatile disc player" and "digital versatile disc recorder" mean commercially available electronic products encased in a single housing that includes an integral power supply and for which the sole purpose is the decoding or

production or recording of digitized video signal on a DVD. DVD recorder does not include models that have an electronic programming guide function that provides an interactive, onscreen menu of television listings, and that downloads program information from the vertical blanking interval of a regular television signal.

(j) "Electricity ratio" is the ratio of furnace electricity use to total furnace energy use. Electricity ratio = $(3.412*E_{AE}/(1000*E_F + 3.412*E_{AE})$ where E_{AE} (average annual auxiliary electrical consumption) and E_F (average annual fuel energy consumption) are defined in appendix n to subpart B of part 430 of title 10 of the code of federal regulations and E_F is expressed in millions of btus per year.

(k) "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.

(*l*) "Liquid-immersed distribution transformer" means a transformer that has an input voltage of 34,500 volts or less, has an output voltage of 600 volts or less, uses oil or other liquid as a coolant, and is rated for operation at a frequency of 60 hertz.

(m) "Medium voltage dry-type distribution transformer" means a transformer that has an input voltage of more than 600 volts but less than or equal to 34,500 volts, is air-cooled, does not use oil as a coolant, and is rated for operation at a frequency

of 60 hertz.

(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 light fixture designed to be operated with a metal halide lamp and a ballast for a metal halide lamp.

(p) "Pool heater" means an appliance designed for heating nonpotable water contained at atmospheric pressure, including heating water in swimming pools, spas, hot tubs, and similar applications.

(q) "Portable electric spa" means a factory-built electric spa or hot tub, supplied with equipment for heating and circulating water.

(r) "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.

(s) "Residential furnace" means a self-contained space heater designed to supply heated air through ducts of more than 10 inches in length and 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 all of the following apply:

(*i*) Is designed to be the principal heating source for the living space of 1 or more residences.

(*ii*) Is not contained within the same cabinet as a central air conditioner whose rated cooling capacity is above 65,000 btu per hour.

(*iii*) Has a heat input rate of less than 225,000 btu per hour.

(t) "Residential pool pump" means a pump used to circulate and filter residential swimming pool water in order to maintain clarity and sanitation.

(u) "Single-voltage external AC to DC power supply" means a device that is all of the following:

(*i*) Designed to convert line voltage AC input into lower voltage DC output.

(*ii*) Able to convert to only 1 DC output voltage at a time.

(*iii*) Sold with, or intended to be used with, a separate end-use product that constitutes the primary power load.

(*iv*) Contained within a separate physical enclosure from the end-use product.

(*v*) Connected to the end-use product via a removable or hard-wired male/female electrical connection, cable, cord, or other wiring.

(*vi*) Does not have batteries or battery packs, including those that are removable, that physically attach directly to the power supply unit.

(*vii*) 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.

(*viii*) Has a nameplate output power less than or equal to 250 watts.

(v) "State-regulated incandescent reflector lamp" means a lamp, not colored or designed for rough or vibration service applications, with an inner reflective coating on the outer bulb to direct the light, an E26 medium screw base, a rated voltage or voltage range that lies at least partially within 115 to 130 volts, and that falls into either of the following categories: a blown PAR (BPAR), bulged reflector (BR), or elliptical reflector (ER) bulb shape with a diameter equal to or greater than 2.25 inches; or a reflector (R), parabolic aluminized reflector (PAR), or similar bulb shape with a diameter of 2.25 to 2.75 inches, inclusive.

(w) "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 1 coil to another to change the original voltage or current value. This term does not include devices with multiple voltage taps, with the highest voltage tap equaling at least 20% more than the lowest voltage tap or devices, such as those commonly known as drive transformers, rectifier transformers, auto-high 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.

(x) "Walk-in refrigerator" and "walk-in freezer" mean a space refrigerated to temperatures, respectively, at or above and

below 32 degrees Fahrenheit that can be walked into.

(y) "Water dispenser" means a factory-made assembly that mechanically cools and heats potable water and that dispenses the cooled or heated water by integral or remote means.

Sec. 3. (1) This act shall apply to the following types of new products sold, offered for sale, or installed in the state after the effective date of this act:

(a) Bottle-type water dispensers.

(b) Commercial boilers.

(c) Commercial hot food holding cabinets.

(d) Compact audio products.

(e) Digital versatile disc players and digital versatile disc recorders.

(f) Liquid-immersed distribution transformers.

(g) Medium voltage dry-type distribution transformers.

(h) Metal halide lamp fixtures.

(i) Pool heaters.

(j) Residential furnaces and residential boilers.

(k) Residential pool pumps.

(*l*) Portable electric spas.

(m) Single-voltage external AC to DC power supplies.

(n) State-regulated incandescent reflector lamps.

(o) Walk-in refrigerators and walk-in freezers.

(p) Any other products as may be designated by the commission under section 7.

(2) This act does not apply to any of the following:

(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.

(d) Products designed expressly for installation and use in recreational vehicles.

Sec. 4. (1) No later than 1 year after the effective date of this act, the commission shall adopt regulations establishing minimum efficiency standards for the types of new products subject to this act.

(2) The regulations required under subsection (1) shall provide for all of the following minimum efficiency standards:

(a) Bottle-type water dispensers designed for dispensing both hot and cold water shall not have standby energy consumption greater than 1.2 kilowatt-hours per day, as measured in accordance with the test criteria contained in version 1 of the federal environmental protection agency's "Energy Star Program Requirements for Bottled Water Coolers", except units with an integral, automatic timer shall not be tested using section D, "Timer Usage", of the test criteria.

(b) The thermal efficiency of commercial boilers, as determined in accordance with hydronics institute testing standard BTS 2000, "Method to Determine Efficiency of Commercial Space Heating Boilers", shall not be less than the following:

(*i*) 80% for gas-fired commercial boilers.

(*ii*) 82% for oil-fired commercial boilers.

(c) Commercial hot food holding cabinets shall have a maximum idle energy rate of 40 watts per cubic foot of interior volume, as determined by the "idle energy rate-dry test" in ASTM F2140-01, "Standard Test Method for Performance of Hot Food Holding Cabinets" published by ASTM international. Interior volume shall be measured in accordance with the method shown in the federal environmental protection agency's "Energy Star Program Requirements for Commercial Hot Food Holding Cabinets" as in effect on August 15, 2003.

(d) Compact audio products shall not use more than 2 watts in standby-passive mode for those without a permanently illuminated clock display and 4 watts in standby-passive mode for those with a permanently illuminated clock display, as measured in accordance with international electrotechnical commission test method 62087:2002(E), "Methods of measurement for the power consumption of audio, video, and related equipment".

(e) Digital versatile disc players and digital versatile disc recorders shall not use more than 3 watts in standby-passive mode, as measured in accordance with international electrotechnical commission test method 62087:2002(E), "Methods of measurement for the power consumption of audio, video, and related equipment".

(f) Medium voltage dry-type distribution transformers shall meet 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.

(g) Liquid-immersed distribution transformers shall meet minimum efficiency levels 2/10 of a percentage point higher than the class 1 efficiency levels specified in table 4-1 of the "Guide for Determining Energy Efficiency for Distribution Transformers" published by the national electrical manufacturers association, NEMA Standard TP-1-2002.

(h) 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 ballast.

(i) Pool heaters shall be equipped with an intermittent ignition device and the thermal efficiency of pool heaters shall be not less than 80%, as measured in accordance with the federal test method for measuring the energy consumption of pool heaters contained in appendix p to subpart b of part 430, title 10, CFR.

(j) Portable electric spas shall not have a standby power greater than $5(V^{2/3})$ watts where V = the total volume in gallons.

(k) Residential furnaces and residential boilers shall comply with the following annual fuel utilization efficiency and electricity ratio values:

Product Type	Minimum AFUE	Maximum electricity ratio
Natural gas- and propane-fired furnaces	90%	2.0%

Oil-fired furnaces ≥94,000 btu/hour in capacity	83%	2.0%
Oil-fired furnaces <94,000 btu/hour in capacity	83%	2.3%
Natural gas-, oil-, and propane-fired hot water residential boilers	84%	Not applicable
Natural gas-, oil-, and propane-fired steam residential boilers	82%	Not applicable

The commissioner may adopt rules to exempt compliance with the foregoing residential furnace or residential boiler standards at any building, site, or location where complying with the standards would be in conflict with any local zoning ordinance, building, or plumbing code, or other rule regarding installation and venting of residential furnaces or residential boilers.

(*l*) Residential pool pump motors may not be split-phase or capacitor start-induction run type motors. Pool pump motors with a capacity of 1 horsepower or more shall have the capability of operating at 2 or more speeds with a low speed having a rotation rate that is not more than 1/2 of the motor's maximum rotation rate. Pool pump motor controls shall have the capability of operating the pool pump at at least 2 speeds. The default circulation speed shall be the lowest speed, with a high speed override capability being for a temporary period not to exceed 1 normal cycle.

(m) Single-voltage external AC to DC power supplies shall meet the energy efficiency requirements in the following table:

Nameplate Output Power	Minimum Efficiency in Active Mode
0 to <1 watt	0.49 * Nameplate Output
≥1 watt and ≤49 watts	0.09*Ln(Nameplate Output Power) + 0.49
>49 watts	0.84
	Maximum Energy Consumption in No-Load Mode
0 to <10 watts	0.5 watts
≥10 watts and ≤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. For purposes of this subparagraph, the efficiency of single-voltage external AC to DC power supplies shall be measured in accordance with the test methodology specified by the federal environmental protection agency's energy star program, "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies (August 11, 2004)".

(n) State-regulated incandescent reflector lamps shall meet the minimum average lamp efficacy requirements for federally regulated incandescent reflector lamps contained in 42 USC 6295(i)(1)(A). The following types of incandescent reflector lamps are exempt from these requirements:

(*i*) Lamps rated at 50 watts or less of the following types:

BR30, ER30, BR40, and ER40.

(*ii*) Lamps rated at 65 watts of the following types: BR30, BR40, and ER40.

(*iii*) R20 lamps of 45 watts or less.

(o) Walk-in refrigerators and walk-in freezers with the applicable motor types shown in the table below shall include the required components shown:

Motor Type	Required Components
All	Interior lights; light sources with an efficacy of 45 lumens per watt or more, including ballast losses (if any). This efficacy standard does not apply to LED light sources until January 1, 2012
All	Automatic door closers that firmly close all reach-in doors
All	Automatic door closers that firmly close all walk-in doors no wider than 3.9 feet and no higher than 6.9 feet that have been closed to within 1 inch of full closure
All	Wall, ceiling, and door insulation at least R-28 for refrigerators and at least R-34 for freezers
All	Floor insulation at least R-28 for freezers (no requirement for refrigerators)
Condenser fan motors	Electronically commutated motors, permanent split capacitor-type

of under 1 horsepower	motors, or polyphase motors of 1/2 horsepower or more
Single-phase evaporator fan motors of under 1 horsepower and less than 460 volts	Electronically commutated motors

(p) Walk-in refrigerators and walk-in freezers with transparent reach-in doors shall meet the following requirements:

(*i*) Transparent reach-in doors shall be of triple pane glass with either heat-reflective treated glass or gas fill.

(*ii*) If the appliance has an anti-sweat heater without anti-sweat controls, then the appliance shall have a total door rail, glass, and frame heater power draw of no more than 40 watts if it is a freezer or 17 watts if it is a refrigerator per foot of door frame width.

(*iii*) If the appliance has an anti-sweat heater with anti-sweat heat controls, and the total door rail, glass, and frame heater power draw is more than 40 watts if it is a freezer or 17 watts if it is a refrigerator per foot of door frame width, then the anti-sweat heat controls shall reduce the energy use of the anti-sweat heater in an amount corresponding to the relative humidity in the air outside the door or to the condensation on the inner glass pane.

Sec. 5. (1) Except as provided under subsection (2), on or after January 1, 2010, no new bottle-type water dispenser,

commercial hot food holding cabinet, compact audio product, digital versatile disc player or digital versatile disc recorder, liquid-immersed distribution transformer, medium voltage dry-type distribution transformer, metal halide lamp fixture, residential pool pump, portable electric spa, state-regulated incandescent reflector lamp, single-voltage external AC to DC power supply, or walk-in refrigerator or walk-in freezer 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 under section 4.

(2) Residential pool pumps that do not meet the efficiency standards contained in section 4(2)(*l*) may be sold in this state until January 1, 2012.

(3) No later than 6 months after the effective date of this act, the commission, in consultation with the attorney general, shall determine if implementation of state standards for commercial boilers, pool heaters, and residential furnaces and residential boilers requires a waiver from federal preemption. If the commission determines that a waiver from federal preemption is not needed, then on or after January 1, 2010, or the date which is 1 year after the date of the determination, if later, no new commercial boiler, pool heater, or residential furnace or boiler may be sold or offered for sale in this state unless the efficiency of the new product meets or exceeds the efficiency standards set forth in section 4. If the commission determines that a waiver from federal preemption is required, then the commission shall apply for the waiver within 1 year of the

determination and upon approval of the waiver application, the applicable state standards shall go into effect at the earliest date permitted by federal law.

(4) One year after the date upon which the sale or offering for sale of certain products becomes subject to the requirements of this section, no 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 section 4.

Sec. 6. The commission may adopt, revise, modify, or amend the regulations required under this act to establish increased efficiency standards for the products listed in section 3. The commission may also establish standards for products not specifically listed in section 3. In considering new or amended standards, the commission 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 new products, provided that no new or increased efficiency standards shall become effective within 1 year following the adoption of any amended regulations establishing the increased efficiency standards. The commission may apply for a waiver of federal preemption in accordance with federal procedures for state efficiency standards for any product regulated by the federal government.

Sec. 7. (1) The manufacturers of products covered by this act shall test samples of their products in accordance with the test procedures adopted under this act. The commission shall

adopt by rule test procedures for determining the energy efficiency of the products covered by section 3 if such procedures are not provided for in section 4. The commission shall adopt federal department of energy approved test methods or, in the absence of such test methods, other appropriate nationally recognized test methods. The commission may adopt updated test methods when new versions of test procedures become available.

(2) Manufacturers of new products covered by section 3, except for single voltage external AC to DC power supplies, walk-in refrigerators, and walk-in freezers, shall certify to the commission that the products are in compliance with this act. The certifications shall be based on test results. The commission shall promulgate rules governing the certification of the products and shall coordinate with the certification programs of other states and federal agencies with similar standards.

(3) Manufacturers of new products covered by section 3 shall identify each product offered for sale or installation 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 commission shall promulgate rules governing the identification of the 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 commission shall allow the use of existing marks, labels, or tags which connote compliance with the efficiency requirements of this act.

(4) The commission may test products covered by section 3. If products so tested are found not to be in compliance with the minimum efficiency standards established under section 4, the commission shall charge the manufacturer of the product for the cost of product purchase and testing, and make information available to the public on products found not to be in compliance with the standards.

(5) With prior notice and at reasonable and convenient hours, the commission may cause periodic inspections to be made of distributors or retailers of new products covered by section 3 in order to determine compliance with this act.

(6) The commission shall investigate complaints received concerning violations of this act and shall report the results of the investigations to the attorney general. The attorney general may institute proceedings to enforce this act. Any manufacturer, distributor, or retailer, or any person who installs a product covered by this act for compensation, who violates this act shall be issued a warning by the commission for any first violation. Repeat violations shall be subject to a civil penalty of not more than $250.00. Each violation shall constitute a separate offense, and each day that such violation continues shall constitute a separate offense. Penalties assessed under this subsection are in addition to costs assessed under subsection (4).

(7) The commission may promulgate further rules as necessary to insure the proper implementation and enforcement of this act.