State of Minnesota

HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH
SESSION

HOUSE FILE NO. 1890

March 8, 2007
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The bill was read for the first time and referred to the Energy Finance and Policy Division

A bill for an act

relating to consumer protection; establishing minimum energy efficiency standards for certain products sold in Minnesota; proposing coding for new law as Minnesota Statutes, chapter 325O.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. **[325O.01] DEFINITIONS.**

Subdivision 1. **Scope.** The terms used in this chapter have the meanings given them in this section.

Subd. 2. **Ballast.** "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.

Subd. 3. **Bottle-type water dispenser.** "Bottle-type water dispenser" means a water dispenser that uses a bottle or reservoir as the source of portable water.

Subd. 4. **Commissioner.** "Commissioner" means the commissioner of commerce.

Subd. 5. **Commercial hot food holding cabinet.** "Commercial hot food holding cabinet" means a heated, fully enclosed compartment with one or more solid or glass doors 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 merchandizing cabinets, drawer warmers, or cook-and-hold appliances.

Subd. 6. **Compact audio product.** "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 one or more of the following media: 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.

Subd. 7. **Compensation.** "Compensation" means money or any other valuable thing, regardless of form, received or to be received by a person for services rendered.

Subd. 8. **Digital versatile disc or DVD.** "Digital versatile disc" or "DVD" means a laser-encoded plastic medium capable of storing a large amount of digital audio, video, and computer data.

Subd. 9. **Digital versatile disc player or digital versatile disc recorder.** "Digital versatile disc player" or "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, respectively, (1) the decoding and (2) 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.

Subd. 10. **Electricity ratio.** "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 Code of Federal Regulations, title 10, part 430, subpart B, Appendix, and E_F is expressed in millions of Btu's per year.

Subd. 11. **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 three watts per square centimeter.

Subd. 12. **Metal halide lamp.** "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.

Subd. 13. **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.

Subd. 14. **Portable electric spa.** "Portable electric spa" means a factory-built electric spa or hot tub, supplied with equipment for heating and circulating water.

Subd. 15. **Probe-start metal halide ballast.** "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.

Subd. 16. **Residential boiler.** "Residential boiler" means a self-contained, low-pressure appliance for supplying steam or hot water primarily designed for space heating, which uses natural gas, propane, or home heating oil and which has a heat input rate of less than 300,000 Btu's per hour.

Subd. 17. **Residential furnace.** "Residential furnace" means a self-contained space heater designed to supply heated air through ducts of more than ten inches length and that 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 that:

(1) is designed to be the principle heating source for the living space of one or more residences;

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

(3) has a heat input rate of less than 225,000 Btu's per hour.

Subd. 18. **Single-voltage external AC to DC power supply.** "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; and

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

Subd. 19. **State-regulated incandescent reflector lamp.** "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), elliptical reflector (ER), or similar 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.

Subd. 20. **Temperature reset.** "Temperature reset" means an automatic means for adjusting the temperature of the water supplied by a residential boiler such that an incremental change in inferred heat load produces a corresponding incremental change in supply water temperature. When there is no inferred heat load, such automatic means adjusts the supply water temperature to no more than 140 degrees Fahrenheit.

Subd. 21. **Walk-in refrigerator and freezer.** "Walk-in refrigerator and freezer" means a refrigerated space that can be walked into and has a total chilled and frozen storage area of less than 3,000 square feet, operates at chilled (above 32 degrees Fahrenheit) or frozen (at or below 32 degrees Fahrenheit) temperature, and is connected to a self-contained or remote condensing unit. This term excludes products designed and marketed exclusively for medical, scientific, or research purposes. This term also excludes refrigerated warehouses.

Subd. 22. **Water dispenser.** "Water dispenser" means a factory-made assembly that mechanically cools and heats portable water and that dispenses the cooled or heated water by integral or remote means.

Sec. 2. **[325O.02] GENERAL PURPOSE; LEGISLATIVE FINDINGS.**

Subdivision 1. **General purpose.** This chapter establishes minimum efficiency standards for certain products sold or installed in Minnesota.

Subd. 2. **Legislative findings.** The legislature finds:

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

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

(c) Such efficiency standards can make electricity systems more reliable by reducing the strain on the electricity grid during peak demand periods. Furthermore, 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. 3. **[325O.03] SCOPE.**

(a) This chapter applies to the following types of new products sold, offered for sale, or installed in this state:

(1) bottle-type water dispensers;

(2) commercial hot food holding cabinets;

(3) compact audio products;

(4) DVD players and DVD recorders;

(5) metal halide lamp fixtures;

(6) portable electric spas;

(7) residential furnaces and residential boilers;

(8) single-voltage external AC to DC power supplies;

(9) state-regulated incandescent reflector lamps;

(10) walk-in refrigerators and freezers; and

(11) any other products as may be designated by the commissioner in accordance with section 325O.06.

(b) The provisions of this chapter 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.

Sec. 4. **[325O.04] EFFICIENCY STANDARDS.**

Subdivision 1. **Rules.** Not later than one year after the effective date of this section, the commissioner, in consultation with appropriate state agencies and interested persons, shall adopt rules, in accordance with chapter 14, establishing minimum efficiency standards for the types of new products set forth in section 325O.03.

Subd. 2. **Minimum standards.** The rules must provide for 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 United States Environmental Protection Agency's "Energy Star Program Requirements for Bottled Water Coolers," except units with an integral, automatic timer may not be tested using Section D, "Timer Usage," of the test criteria.

(b) Commercial hot-food-holding cabinets must 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 the American Society for Testing and Materials (ASTM) International. Interior volume must be measured in accordance with the method shown in the United States Environmental Protection Agency's "Energy Star Program Requirements for Commercial Hot Food Holding Cabinets" as in effect on August 15, 2003.

(c) Compact audio products must not use more than two watts in standby-passive mode for those without a permanently illuminated clock display and four watts in standby-passive mode for those with a permanently illuminated clock display, as measured in accordance with International Electrotechnical Commission (IEC) test method 62087:2002(E), "Methods of measurement for the power consumption of audio, video, and related equipment."

(d) DVD players and DVD recorders must not use more than three watts in standby-passive mode, as measured in accordance with IEC test method 62087:2002(E), "Methods of measurement for the power consumption of audio, video, and related equipment."

(e) 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 must not contain a probe-start metal halide ballast.

(f) Portable electric spas must not have a standby power greater than five ($V^{2/3}$) watts where V equals the total volume in gallons, which means "V to the two-thirds power," as measured in accordance with the test method for portable electric spas contained in California Code of Regulations, title 20, section 1604.

(g) Residential furnaces and residential boilers must comply with the following Annual Fuel Utilization Efficiency (AFUE), electricity ratio and design requirements:

Product Type	Minimum AFUE	Maximum electricity ratio	Design requirements
Natural gas- and propane-fired furnaces	90 percent	2.0 percent	none
Oil-fired furnaces ≥ 94,000 Btu's/hour in capacity	none	2.0 percent	none
Oil-fired furnaces < 94,000 Btu's/hour in capacity	none	2.3 percent	none

Natural gas- and propane-fired hot water residential boilers	82 percent	Not applicable	No standing pilot; Temperature reset required
Natural gas- and propane-fired steam residential boilers	80 percent	Not applicable	No standing pilot
Oil-fired hot water residential boilers	84 percent	Not applicable	Temperature reset required
Oil-fired steam residential boilers	82 percent	Not applicable	none

Residential boilers must only be operable if the temperature reset is installed. AFUE must be measured in accordance with the federal test method for measuring the energy consumption of furnaces and boilers contained in Code of Federal Regulations, title 10, part 430, subpart B, Appendix N.

(h) The commissioner may adopt rules to exempt compliance with the standards in paragraph (g) at any building, site, or location where complying with those 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.

(i) Single-voltage external AC to DC power supplies must 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

(1) 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.

(2) Single-voltage external AC to DC power supplies that require United States Food and Drug Administration listing and approval as a medical device are exempt from the requirements of this subdivision.

(3) Single-voltage external AC to DC power supplies made available by a manufacturer directly to a consumer or to a service or repair facility after and separate

from the original sale of the product requiring the power supply as a service part or spare part is not required to meet the standards of this section until January 1, 2013.

(4) For purposes of this paragraph, the efficiency of single-voltage external AC to DC power supplies must be measured in accordance with the test methodology specified by the United States 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)" except that tests must be conducted at 115 volts only.

(j) State-regulated incandescent reflector lamps shall meet the minimum average lamp efficacy requirements for federally regulated incandescent reflector lamps contained in United States Code, title 42, section 6295, subsection (i), paragraph (1), subparagraph (A). The following types of incandescent reflector lamps are exempt from these requirements:

(1) lamps rated at 50 watts or less of the following types: BR30, ER30, BR40, and ER40;

(2) lamps rated at 65 watts of the following types: BR30, BR40, and ER40; and

(3) R20 lamps of 45 watts or less.

(k) Walk-in refrigerators and freezers must meet the following requirements;

(1) All walk-in refrigerators and freezers must have:

(i) automatic door closers that firmly close all reach-in doors and that firmly close walk-in doors no wider than 3 feet 9 inches and no higher than 6 feet 11 inches that have been closed to within one inch of full closure;

(ii) wall, ceiling, and door insulation of at least R-28 for refrigerators, but door insulation requirements do not apply to glazed portions of doors or to structural members;

(iii) wall, ceiling, and door insulation of at least R-32 for freezers, but door insulation requirements do not apply to glazed portions of doors or to structural members;

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

(v) for single-phase evaporator fan motors of under one horsepower and less than 460 volts, electronically commutated motors, but the commissioner may delay implementation of this paragraph on determining that such motors are only available from one manufacturer or in insufficient quantities to serve the needs of the walk-in industry for evaporator-fan applications;

(vi) for condenser fan motors of under one horsepower, either (A) electronically commutated motors, (B) permanent split capacitor-type motors, or (C) polyphase motors of one-half horsepower or more; and

(vii) for all interior lights, light sources with an efficacy of 40 lumens per watt or more, including ballast losses, if any, although light sources with an efficacy of 40 lumens

per watt or less, including ballast losses, if any, may be used in conjunction with a timer or device that turns off the lights within 15 minutes of when the walk-in is not occupied.

(2) In addition to the requirements in clause (1), walk-in refrigerators and freezers with transparent reach-in doors must meet the following requirements:

(i) transparent reach-in doors and windows in walk-in doors for walk-in freezers must be of triple-pane glass with either heat-reflective treated glass or gas fill;

(ii) transparent reach-in doors and windows in walk-in doors for walk-in refrigerators must be either double-pane glass with heat-reflective treated glass and gas fill or triple-pane glass with either heat-reflective treated glass or gas fill;

(iii) if the appliance has an antisweat heater without antisweat heat controls, then the appliance must have a total door rail, glass, and frame heater power draw of no more than 7.1 watts per square foot of door opening for freezers and 3.0 watts per square foot of door opening for refrigerators; and

(iv) if the appliance has an antisweat heater with antisweat heat controls, and the total door rail, glass, and frame heater power draw is more than 7.1 watts per square foot of door opening for freezers and 3.0 watts per square foot of door opening for refrigerators, then the antisweat heat controls must reduce the energy use of the antisweat 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. **[325O.05] IMPLEMENTATION.**

Subdivision 1. **After December 31, 2008.** On or after January 1, 2009, no new bottle-type water dispenser, commercial hot food holding cabinet, compact audio product, digital versatile disc player or digital versatile disc recorder, metal halide lamp fixture, 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 pursuant to section 325O.04.

Subd. 2. **Six months after effective date.** No later than six months after the effective date of this section, the commissioner, in consultation with the attorney general, shall determine if implementation of state standards for residential furnaces and residential boilers requires a waiver from federal preemption. The commissioner shall make separate determinations for each part of the state standards including minimum AFUE, maximum electricity ratio, and any prescriptive requirements. If the commissioner determines that a waiver from federal preemption is not needed for any part, then on or after January 1, 2009, or the date that is one year after the date of the commissioner's determination, if later,

no new residential furnace or residential boiler may be sold or offered for sale in the state unless the efficiency of the new product meets or exceeds the applicable nonpreempted part of the efficiency standards set forth in the rules adopted pursuant to section 325O.04. If the commissioner determines that a waiver from federal preemption is required for all or part of the state standards, then the commissioner shall apply for such waiver within one year of that determination and upon approval of the waiver application, the applicable state standards become effective at the earliest date permitted by federal law.

Subd. 3. **One year after requirements implemented.** One year after the date upon which the sale or offering for sale of certain products becomes subject to the requirements of subdivision 1 or 2, no such 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 rules adopted pursuant to section 325O.04.

Sec. 6. **[325O.06] NEW AND REVISED STANDARDS.**

The commissioner may adopt rules, in accordance with chapter 14, to establish increased efficiency standards for the products listed in section 325O.03. The commissioner may also establish standards for products not specifically listed in section 325O.03. In considering such new or amended standards, the commissioner, in consultation with the other appropriate state agencies and interested persons, shall set efficiency standards on determining 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 new products; provided that, new or increased efficiency standards may not become effective within one year following the adoption of any amended regulations establishing increased efficiency standards. The commissioner may apply for a waiver of federal preemption in accordance with the federal procedures under United State Code, title 42, section 6297, paragraph (d), for state efficiency standards for any product regulated by the federal government.

Sec. 7. **[325O.07] TESTING, CERTIFICATION, LABELING, AND ENFORCEMENT; RULES.**

Subdivision 1. **Testing by manufacturers; rules.** The manufacturers of products covered by this chapter 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 commissioner, in consultation with other appropriate agencies and interested persons, shall adopt by rule test procedures for determining the energy efficiency of the products covered by section 325O.03 if the procedures are not provided for in section 325O.04 or

in the State Building Code. The commissioner shall adopt United States 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.

Subd. 2. **Compliance certification; rules.** Manufacturers of new products covered by section 325O.03, except for single-voltage external AC to DC power supplies, walk-in refrigerators, and walk-in freezers, shall certify to the commissioner that the products are in compliance with this chapter. Certifications must be based on test results. The commissioner shall adopt rules governing the certification of these products and shall coordinate with the certification programs of other states and federal agencies with similar standards.

Subd. 3. **Labeling; rules.** Manufacturers of new products covered by section 325O.03 shall identify each product offered for sale or installation in the state as in compliance with this chapter by means of a mark, label, or tag on the product and packaging at the time of sale or installation. The commissioner shall adopt rules governing the identification of these products and packaging, which must 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 that connote compliance with the efficiency requirements of this chapter.

Subd. 4. **Testing by commissioner; costs.** The commissioner may test products covered by section 325O.03. If products so tested are found not to be in compliance with the minimum efficiency standards established under section 325O.04, the commissioner shall (1) charge the manufacturer of the product 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.

Subd. 5. **Inspections.** With prior notice and at reasonable and convenient hours, the commissioner may cause periodic inspections to be made of distributors or retailers of new products covered by section 325O.03 in order to determine compliance with this chapter. The commissioner shall also coordinate with appropriate local building code officials regarding inspections before occupancy of newly constructed buildings containing new products that are also covered by the State Building Code.

Subd. 6. **Violations, civil penalties.** The commissioner shall investigate complaints received concerning violations of this chapter and shall report the results of these investigations to the attorney general. The attorney general may institute proceedings to enforce the provisions of this chapter. Any manufacturer, distributor, or retailer, or any

person who installs a product covered by this chapter for compensation, who violates any provision of this chapter must be issued a warning by the commissioner for any first violation. Repeat violations are subject to a civil penalty of not more than $250. Each violation constitutes a separate offense, and each day that the violation continues constitutes a separate offense. Penalties assessed under this subdivision are in addition to costs assessed under subdivision 4.

Subd. 7. **Additional rules.** The commissioner may adopt such further rules as necessary to ensure the proper implementation and enforcement of this chapter.