

1 TO THE HOUSE OF REPRESENTATIVES:

2 The Committee on Energy and Technology to which was referred House
3 Bill No. 410 entitled “An act relating to adding products to Vermont’s energy
4 efficiency standards for appliances and equipment” respectfully reports that it
5 has considered the same and recommends that the bill be amended by striking
6 out all after the enacting clause and inserting in lieu thereof the following:

7 Sec. 1. PURPOSE

8 (a) In 9 V.S.A. § 2792, the General Assembly found that efficiency
9 standards for products sold or installed in the State provide benefits to
10 consumers and businesses, including saving money on utility bills, saving
11 energy and thereby reducing the environmental impacts of energy
12 consumption, reducing or delaying the need for new power plants and
13 upgrades to the electric transmission and distribution system, and allowing the
14 energy cost savings to be spent on other goods and services within the State’s
15 economy.

16 (b) The purpose of this act is to obtain the benefits found in 9 V.S.A.
17 § 2792 for the following products to which the State’s efficiency standards do
18 not currently apply: air compressors, commercial dishwashers, commercial
19 fryers, commercial hot-food holding cabinets, commercial steam cookers,
20 computers and computer monitors, faucets, high color rendering index
21 fluorescent lamps, portable air conditioners, portable electric spas, residential

1 ventilating fans, showerheads, spray sprinkler bodies, telephones,
2 uninterruptible power supplies, urinals, water closets, and water coolers.

3 Sec. 2. 9 V.S.A. § 2793 is amended to read:

4 § 2793. DEFINITIONS

5 As used in this chapter:

6 * * *

7 (16) With respect to air compressors, the following definitions apply:

8 (A) “Air compressor” means a compressor that is designed to
9 compress air that has an inlet open to the atmosphere or other source of air and
10 that consists of the bare compressor, also known as the compression element;
11 one or more drivers; mechanical equipment to drive the compression element;
12 and any ancillary equipment.

13 (B) “Compressor” means a machine or apparatus that converts
14 different types of energy into the potential energy of gas pressure for
15 displacement and compression of gaseous media to any higher-pressure values
16 above atmospheric pressure and has a pressure ratio at full-load operating
17 pressure greater than 1.3.

18 (17) “Commercial dishwasher” means a machine designed to clean and
19 sanitize plates, pots, pans, glasses, cups, bowls, utensils, and trays by applying
20 sprays of detergent solution, with or without blasting media granules, and a

1 sanitizing rinse. The phrase “commercial dishwasher” does not include
2 dishwashers intended for consumer use as defined in 10 C.F.R § 430.2.

3 (18) “Commercial fryer” means an appliance, including a cooking
4 vessel, in which oil is placed to such a depth that the cooking food is supported
5 by displacement of the cooking fluid rather than by the bottom of the vessel.
6 Heat is delivered to the cooking fluid by means of an immersed electric
7 element of band-wrapped vessel or by heat transfer from gas burners either
8 through the walls of the fryer or through tubes passing through the cooking
9 fluid.

10 (19) “Commercial hot-food holding cabinet” means a heated, fully
11 enclosed compartment with one or more solid or transparent doors designed to
12 maintain the temperature of hot food that has been cooked using a separate
13 appliance. The phrase “commercial hot-food holding cabinet” does not include
14 heated glass merchandizing cabinets, drawer warmers, or cook-and-hold
15 appliances.

16 (20) “Commercial steam cooker” means a device with one or more
17 food-steaming compartments in which the energy in the steam is transferred to
18 the food by direct contact. A commercial steam cooker may also be known as
19 a compartment steamer.

1 (21) “Computer” means a device that performs logical operations and
2 processes data, whether or not input devices or displays are included when the
3 device is shipped.

4 (A) At a minimum, a computer includes:

5 (i) a central processing unit (CPU) to perform operations or, if no
6 CPU is present, then the device functions as a client gateway to a server, and
7 the server acts as a computational CPU;

8 (ii) the ability to support user input devices such as a keyboard,
9 mouse, or touch pad; and

10 (iii) an integrated display screen or the ability to support an
11 external display screen to output information.

12 (B) The term “computer” includes both stationary and portable units
13 and includes a desktop computer, a portable all-in-one, a notebook computer, a
14 mobile gaming system, a high-expandability computer, a small-scale server, a
15 thin client, and a workstation.

16 (C) The term “computer” does not include a tablet, a game console, a
17 television, a device with an integrated and primary display that has a screen
18 size of 20 square inches or less, a server other than a small-scale server, or an
19 industrial computer.

20 (22) “Computer monitor” means an analog or digital device composed
21 of a display screen and associated electronics that has a diagonal screen size

1 greater than or equal to 17 inches and less than or equal to 61 inches, that has a
2 pixel density of greater than 5,000 pixels per square inch (psi), and that is
3 designed primarily for the display of computer-generated signals for viewing
4 by one person in a desk-based environment. The term “computer monitor”
5 does not include:

6 (A) displays with integrated or replaceable batteries designed to
7 support primary operation without AC mains or external DC power, such as
8 electronic readers, mobile phones, tablets, battery-powered digital picture
9 frames; or

10 (B) a television or signage display.

11 (23) “ENERGY STAR Program” means the federal program initiated by
12 the U.S. Environmental Protection Agency pursuant to 42 U.S.C. § 7403(g)
13 that includes certification of energy-saving products, buildings, and tools, and
14 includes other resources for saving energy.

15 (24) With respect to faucets and showerheads, the following definitions
16 apply:

17 (A) “Faucet” means a lavatory faucet, kitchen faucet, metering
18 faucet, public lavatory faucet, or replacement aerator for a lavatory, public
19 lavatory, or kitchen faucet. As used in this subdivision (24)(A):

20 (i) “Metering faucet” means a fitting that, when turned on, will
21 gradually shut itself off over a period of several seconds.

1 (ii) “Public lavatory faucet” means a fitting intended to be
2 installed in nonresidential bathrooms that are exposed to walk-in traffic.

3 (iii) “Replacement aerator” means an aerator sold as a
4 replacement, separate from the faucet to which it is intended to be attached.

5 (B) “Showerhead” means an accessory to a supply fitting for
6 spraying water onto a bather, typically from an overhead position. The term
7 includes a body spray and handheld shower. As used in this subdivision
8 (24)(B):

9 (i) “Body spray” means a shower device for spraying water onto a
10 bather other than from the overhead position.

11 (ii) “Handheld shower” means a showerhead that can be held or
12 fixed in place for the purpose of spraying water onto a bather and that is
13 connected to a flexible hose.

14 (25) “High color rendering index (CRI) fluorescent lamp” means a
15 fluorescent lamp with a color rendering index of 87 or greater that is not a
16 compact fluorescent lamp.

17 (26) “Portable electric spa” means a factory-built electric spa or hot tub,
18 which may or may not include any combination of integral controls, water
19 heating, or water circulating equipment.

20 (27) With respect to portable air conditioners, the following definitions
21 apply:

1 (A) “Portable air conditioner” means a portable encased assembly,
2 other than a packaged terminal air conditioner, room air conditioner, or
3 dehumidifier, that includes a source of refrigeration; delivers cooled,
4 conditioned air to an enclosed space; and is powered by single-phase electric
5 current. The assembly may include additional means for air circulation and
6 heating and may be a single-duct or a dual-duct portable air conditioner.

7 (B) “Single-duct portable air conditioner” means a portable air
8 conditioner that draws all of the condenser inlet air from the conditioned space
9 without the means of a duct and discharges the condenser outlet air outside the
10 conditioned space through a single duct attached to an adjustable window
11 bracket.

12 (C) “Dual-duct portable air conditioner” means a portable air
13 conditioner that draws some or all of the condenser inlet air from outside the
14 conditioned space through a duct attached to an adjustable window bracket,
15 may draw additional condenser inlet air from the conditioned space, and
16 discharges the condenser outlet air outside the conditioned space by means of a
17 separate duct attached to an adjustable window bracket.

18 (28) “Residential ventilating fan” means a ceiling, wall-mounted, or
19 remotely mounted in-line fan designed to be used in a bathroom or utility
20 room, or a kitchen range hood, whose purpose is to move air from inside the
21 building to the outdoors.

1 (29) With respect to spray sprinkler bodies, the following definitions
2 apply:

3 (A) “Pressure regulator” means a device that maintains constant
4 operating pressure immediately downstream from the device, given higher
5 pressure upstream.

6 (B) “Spray sprinkler body” means the exterior case or shell of a
7 sprinkler incorporating a means of connection to the piping system designed to
8 convey water to a nozzle or orifice.

9 (30) “Telephone” means an electronic product whose primary purpose is
10 to transmit and receive sound over a distance using a voice or data network.
11 The term does not include a cellular telephone as defined in the “ENERGY
12 STAR Program Product Specification for Telephony,” Version 3.0.

13 (31) “Uninterruptible power supply” means a battery charger consisting
14 of a combination of convertors, switches, and energy storage devices, such as
15 batteries, constituting a power system that maintains continuity of load power
16 in case of input power failure.

17 (32) With respect to urinals and water closets, the following definitions
18 apply:

19 (A) “Dual-flush effective flush volume” means the average flush
20 volume of two reduced flushes and one full flush.

1 (B) “Dual-flush water closet” means a water closet incorporating a
2 feature that allows the user to flush the water closet with either a reduced or a
3 full volume of water.

4 (C) “Plumbing fixture” means an exchangeable device that connects
5 to a plumbing system to deliver and drain away water and waste.

6 (D) “Urinal” means a plumbing fixture that receives only liquid body
7 waste and conveys the waste through a trap into a drainage system.

8 (E) “Water closet” means a plumbing fixture having a water-
9 containing receptor that receives liquid and solid body waste through an
10 exposed, integral trap into a drainage system.

11 (F) “Trough-type urinal” means a urinal designed for simultaneous
12 use by two or more persons.

13 (33) With respect to water coolers, the following definitions apply:

14 (A) “Cold-only unit” means a water cooler that dispenses cold
15 water only.

16 (B) “Cook and cold unit” means a water cooler that dispenses both
17 cold and room-temperature water.

18 (C) “Hot and cold unit” means a water cooler that dispenses both hot
19 and cold water. A hot and cold unit also may dispense room-temperature
20 water.

1 (D) “On demand” means that a water cooler heats water as it is
2 requested, which typically takes a few minutes to deliver.

3 (E) “Storage-type” means that a water cooler stores thermally
4 conditioned water in a tank and the conditioned water is available
5 instantaneously. Storage-type water coolers include point-of-use, dry storage
6 compartment, and bottled water coolers.

7 (F) “Water cooler” means a freestanding device that consumes
8 energy to cool or heat potable water, or both.

9 Sec. 3. 9 V.S.A. § 2794 is amended to read:

10 § 2794. SCOPE

11 (a) The provisions of this chapter apply to the following types of new
12 products sold, offered for sale, or installed in the State:

13 (1) Medium voltage dry-type distribution transformers.

14 (2) Metal halide lamp fixtures.

15 (3) Residential furnaces and residential boilers.

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

17 (5) State-regulated incandescent reflector lamps.

18 (6) General service lamps.

19 (7) Air compressors.

20 (8) Commercial dishwashers.

21 (9) Commercial fryers.

- 1 (10) Commercial hot-food holding cabinets.
- 2 (11) Commercial steam cookers.
- 3 (12) Computers and computer monitors.
- 4 (13) Faucets.
- 5 (14) High CRI fluorescent lamps.
- 6 (15) Portable air conditioners.
- 7 (16) Portable electric spas.
- 8 (17) Residential ventilating fans.
- 9 (18) Showerheads.
- 10 (19) Spray sprinkler bodies.
- 11 (20) Telephones.
- 12 (21) Uninterruptible power supplies.
- 13 (22) Urinals.
- 14 (23) Water closets.
- 15 (24) Water coolers.
- 16 (25) Each other product for which the Commissioner is required to
17 adopt an efficiency or water conservation standard by rule pursuant to
18 section 2795 of this title.
- 19 ~~(8)~~(26) Any other product that may be designated by the Commissioner
20 in accordance with section 2797 of this title.

1 (b) The provisions of this chapter do not apply to:

2 (1) New products manufactured in the State and sold outside the State
3 and the equipment used in manufacturing those products.

4 (2) New products manufactured outside the State and sold at wholesale
5 inside the State for final retail sale and installation outside the State.

6 (3) Products installed in mobile manufactured homes at the time of
7 construction.

8 (4) Products designed expressly for installation and use in recreational
9 vehicles.

10 Sec. 4. 9 V.S.A. § 2795 is amended to read:

11 § 2795. EFFICIENCY AND WATER CONSERVATION STANDARDS

12 (a) The Commissioner shall adopt rules in accordance with the provisions
13 of 3 V.S.A. chapter 25 establishing minimum efficiency standards for the types
14 of new products set forth in section 2794 of this title. The rules shall provide
15 for the following minimum efficiency standards for products sold or installed
16 in this State:

17 * * *

18 (4)(A) Single-voltage external AC to DC power supplies shall meet the
19 energy efficiency requirements of the following table:

20 * * *

1 EERE-2013-BT-STD-0040, approved by DOE on December 5, 2016. Air
2 compressors that meet the 12 criteria to be codified under 10 C.F.R.
3 § 431.345(a) and set forth on pages 350 to 351 of the final rule shall meet the
4 requirements contained in Table 1 on page 352 of the final rule using the
5 instructions to be codified under 10 C.F.R. § 431.345(b) and set forth on page
6 353 of the final rule. Compliance with these requirements shall be measured in
7 accordance with 10 C.F.R. Part 431, Subpart T, Appendix A, entitled “Uniform
8 Test Method for Certain Air Compressors,” as in effect on July 3, 2017.

9 (9) Commercial dishwashers included in the scope of the “ENERGY
10 STAR Program Requirements Product Specification for Commercial
11 Dishwashers,” Version 2.0, shall meet the qualification criteria of that
12 specification.

13 (10) Commercial fryers included in the scope of the “ENERGY STAR
14 Program Requirements Product Specification for Commercial Fryers,” Version
15 2.0, shall meet the qualification criteria of that specification.

16 (11) Commercial hot-food holding cabinets shall have a maximum idle
17 energy rate of 40 watts per cubic foot of interior volume, as determined by the
18 “idle energy rate-dry test” in ASTM F2140-11, “Standard Test Method for
19 Performance of Hot-Food Holding Cabinets,” ASTM International (2011).
20 Interior volume shall be measured as prescribed in the “ENERGY STAR

1 Program Requirements Product Specification for Commercial Hot-Food
2 Holding Cabinets,” Version 2.0.

3 (12) Commercial steam cookers shall meet the requirements of the
4 “ENERGY STAR Program Requirements Product Specification for
5 Commercial Steam Cookers,” Version 1.2.

6 (13) Computers and computer monitors shall meet the requirements of
7 20 California Code of Regulations (C.C.R.) § 1605.3(v) and compliance with
8 these requirements shall be measured in accordance with test methods
9 prescribed in 20 C.C.R. § 1604(v). The referenced portions of the C.C.R. shall
10 be those adopted on or before the effective date of this section.

11 (14) Faucets, except for metering faucets, and showerheads shall meet
12 the standards set forth in this subdivision (14) when tested in accordance with
13 10 C.F.R. Part 430, Subpart B, Appendix S, entitled “Uniform Test Method for
14 Measuring the Water Consumption of Faucets and Showerheads,” as in effect
15 on January 3, 2017.

16 (A) Lavatory faucets and replacement aerators shall not exceed a
17 maximum flow rate of 1.5 gallons per minute (gpm) at 60 pounds per square
18 inch (psi).

19 (B) Residential kitchen faucets and replacement aerators shall not
20 exceed a maximum flow rate of 1.8 gpm at 60 psi, with optional temporary

1 flow of 2.2 gpm, provided they default to a maximum flow rate of 1.8 gpm at
2 60 psi after each use.

3 (C) Public lavatory faucets and replacement aerators shall not exceed
4 a maximum flow rate of 0.5 gpm at 60 psi.

5 (D) Showerheads shall not exceed a maximum flow rate of 2.0 gpm
6 at 80 psi.

7 (15) High CRI fluorescent lamps shall meet the minimum efficacy
8 requirements contained in 10 C.F.R. § 430.32(n)(4) as that subsection existed
9 on January 3, 2017. Compliance with requirements shall be measured in
10 accordance with 10 C.F.R. Part 430, Subpart B, Appendix R, entitled
11 “Uniform Test Method for Measuring Average Lamp Efficacy (LE), Color
12 Rendering Index (CRI), and Correlated Color Temperature (CCT) of Electric
13 Lamps,” as that appendix existed on January 3, 2017.

14 (16) Urinals and water closets, other than those designed and marketed
15 exclusively for use at prisons or mental health facilities, shall meet the
16 standards set forth in this subdivision (16) when tested in accordance with
17 10 C.F.R. Part 430, Subpart B, Appendix T, entitled “Uniform Test Method for
18 Measuring the Water Consumption of Water Closets and Urinals,” as in effect
19 on January 3, 2017 and shall pass the waste extraction test for water closets set
20 forth in Sec. 7.10 of the American Society of Mechanical Engineers (ASME)

1 standard A112.19.2-2013/CSA B.45.1, as that standard exists on the effective
2 date of this section.

3 (A) Urinals, except for trough-type urinals, shall have a maximum
4 flush volume of 0.5 gallons per flush.

5 (B) Water closets, except for dual-flush tank-type water closets, shall
6 have a maximum flush volume of 1.28 gallons per flush.

7 (C) Dual-flush tank-type water closets shall have a maximum dual-
8 flush effective flush volume of 1.28 gallons per flush.

9 (17) Portable air conditioners shall have a Combined Energy Efficiency
10 Ratio (CEER), that is greater than or equal to: $1.04 \times [SACC / (3.7177 \times$
11 $SACC^{0.6384})]$.

12 (A) In this subdivision (17), “SACC” means seasonally adjusted
13 cooling capacity expressed in British thermal units per hour.

14 (B) The CEER shall be measured in accordance with 10 C.F.R. Part
15 430, Subpart B, Appendix CC, entitled “Uniform Test Method for Measuring
16 the Energy Consumption of Portable Air Conditioners,” as in effect on
17 January 3, 2017.

18 (18) Portable electric spas shall meet the requirements of the American
19 National Standard for Portable Electric Spa Energy Efficiency,
20 ANSI/APSP/ICC-14 2014, as that standard exists on the effective date of this
21 section.

1 (19) Residential ventilating fans shall meet the qualification criteria of
2 the “ENERGY STAR Program Requirements Product Specification for
3 Residential Ventilating Fans,” Version 3.2.

4 (20) Spray sprinkler bodies shall include an integral pressure regulator
5 and shall meet the water efficiency and performance criteria and other
6 requirements of the Environmental Protection Agency’s “WaterSense
7 Specification for Spray Sprinkler Bodies,” Version 1.0. However, this
8 subdivision (20) shall not apply to spray sprinkler bodies that are specifically
9 excluded from the scope of that specification.

10 (21) Telephones included in the scope of the “ENERGY STAR Program
11 Product Specification for Telephony,” Version 3.0, shall meet the certification
12 criteria of that specification, except that the performance requirements for
13 external power supplies in section 3.2.2 of the specification shall not apply.

14 (22) In this subdivision (22), “final rule” means the document setting
15 forth a final action by DOE with respect to a final rule for “Energy
16 Conservation Standards for Uninterruptible Power Supplies,” docket no.
17 EERE-2016-BT-STD-0022, approved by DOE on December 28, 2016.
18 Uninterruptible power supplies that use a National Electrical Manufacturer
19 Association (NEMA) 1-15P or 5-15P input plug and have an alternating
20 current (AC) output shall have an average load-adjusted efficiency that meets
21 or exceed the values shown to be codified under 10 C.F.R. § 430.32(z)(3) and

1 set forth on pages 193–194 of the final rule. Compliance with these
2 requirements shall be measured in accordance with 10 C.F.R. Part 430,
3 Subpart B, Appendix Y, entitled “Uniform Test Method for Measuring the
4 Energy Consumption of Battery Chargers,” as in effect on January 11, 2017.

5 (23) Water coolers included in the scope of the “ENERGY STAR
6 Program Requirements Product Specification for Water Coolers,” Version 2.0,
7 shall have “on mode with no water draw” energy consumption less than or
8 equal to the following values, measured in accordance with the test
9 requirements of that specification:

10 (A) 0.16 kilowatt-hours (kWh) per day for cold-only units and cook
11 and cold units;

12 (B) 0.87 kWh per day for storage type hot and cold units; and

13 (C) 0.18 kWh per day for on-demand hot and cold units.

14 (b) When a minimum efficiency standard as described in subsection (a) of
15 this section sets forth requirements that change over time, the rules shall
16 provide for compliance with the changed requirements as they come into
17 effect.

18 Sec. 5. 9 V.S.A. § 2796 is amended to read:

19 § 2796. IMPLEMENTATION

20 * * *

