

# MAINE STATE LEGISLATURE

The following document is provided by the  
**LAW AND LEGISLATIVE DIGITAL LIBRARY**  
at the Maine State Law and Legislative Reference Library  
<http://legislature.maine.gov/lawlib>



Reproduced from scanned originals with text recognition applied  
(searchable text may contain some errors and/or omissions)



# 115th MAINE LEGISLATURE

## FIRST REGULAR SESSION-1991

---

Legislative Document

No. 804

H.P. 561

House of Representatives, February 25, 1991

Reference to the Committee on Energy and Natural Resources suggested and ordered printed.

A handwritten signature in cursive script that reads "Ed Pert".

EDWIN H. PERT, Clerk

Presented by Representative HEESCHEN of Wilton.

Cosponsored by Representative COLES of Harpswell, Representative MITCHELL of Freeport and Senator McCORMICK of Kennebec.

---

STATE OF MAINE

---

IN THE YEAR OF OUR LORD  
NINETEEN HUNDRED AND NINETY-ONE

---

**An Act to Improve Energy Efficiency in Buildings.**

---



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

2                   Sec. 1. 5 MRS A §1742-D is enacted to read:

4                   §1742-D. Efficiency in state facilities

6                   1. Electricity and water conservation. The commissioner  
8                   may purchase only efficient appliances for use in state  
10                   facilities. For the purposes of this section, efficient  
12                   appliances include, but are not limited to:

14                   A. Energy efficient lighting fixtures, bulbs and ballasts;

16                   B. Low-flow faucets and showerheads; and

18                   C. Water-saving toilets and urinals.

20                   Unless otherwise required by law, or for reasons of health or  
22                   safety, the use of electric resistance space heating systems,  
24                   incandescent light bulbs and electric hand dryers in state  
26                   facilities is prohibited.

28                   2. Incentives. The commissioner shall establish a program  
30                   to provide incentives to agencies that achieve savings through  
32                   energy efficiency improvements. Upon request by a state agency,  
34                   the commissioner, in consultation with that state agency, shall  
36                   determine the amount of energy cost savings achieved by that  
38                   agency during the past 12 months through energy efficiency or  
40                   energy conservation improvements and shall provide that agency  
42                   with a statement of those energy cost savings. Based upon that  
44                   statement, the commissioner shall allow a portion of the energy  
46                   cost savings achieved to be retained by the agency for payment of  
48                   its future energy costs or for the purchase and installation of  
50                   energy efficiency or energy conservation-related materials or  
52                   equipment. That portion of the energy cost savings retained by  
                    the agency may not be less than 50% of the value of the energy  
                    savings over the 12-month period and may not lapse but must carry  
                    forward and accrue to the agency annually for a period equal to  
                    the useful life of the conservation measures.

By January 1, 1992, the commissioner shall adopt rules to  
                    implement this subsection. On January 1, 1993 and on January 1st  
                    of each subsequent year, the commissioner shall submit a report  
                    to the joint standing committee of the Legislature having  
                    jurisdiction over appropriations and financial affairs indicating  
                    for each participating agency:

A. The type of efficiency improvement or conservation  
                    measure installed;

B. The total annual energy savings, in BTUs, attributable  
                    to that improvement;

2           C. The annual dollar value of those savings; and

4           D. The amount authorized by the commissioner to be carried  
6           forward as a result of that improvement.

8           3. Rules. The commissioner shall adopt rules to implement  
10           this section before January 1, 1992.

12           Sec. 2. 5 MRSA §13084, sub-§5, as enacted by PL 1989, c. 875,  
14           Pt. M, §7 and affected by §13, is amended to read:

16           5. Review and inspection. The director shall ~~provide for~~  
18           the may review of plans and specifications and ~~the inspection of~~  
20           may inspect buildings to determine compliance with the energy  
22           conservation standards, ~~as described~~ established in Title 10,  
24           chapter 214.

26           Sec. 3. 5 MRSA §13085-A is enacted to read:

28           §13085-A. State energy efficiency standards for fluorescent  
30           lighting

32           1. Definitions. As used in this section, unless the  
34           context otherwise indicates, the following terms have the  
36           following meanings.

38           A. "Ballast" or "fluorescent lamp ballast" means a device  
40           used to start and operate a fluorescent lamp by providing a  
42           starting voltage and current and limiting the current during  
44           normal operation.

46           B. "Ballast efficacy factor" means the relative light  
48           output divided by the power input of a fluorescent lamp  
50           ballast.

          C. "F40T12 lamp" means a tubular fluorescent lamp that is a  
          nominal 40 watts, with a 48-inch tube 1 1/2 inches in  
          diameter. These lamps conform to American National  
          Standards Institute standard C.78.1-1978 (R1984).

          D. "F96T12 lamp" means a tubular fluorescent lamp that is a  
          nominal 75 watts, with a 96-inch tube 1 1/2 inches in  
          diameter. These lamps conform to American National  
          Standards Institute standard C.78.3-1978 (R1984).

          E. "F96T12HO lamp" means a tubular fluorescent lamp that is  
          a nominal 110 watts, with a 96-inch tube 1 1/2 inches in  
          diameter. These lamps conform to the American National  
          Standards Institute standard C.78.3-1978 (R1984).

2 F. "Input current" means the root-mean-square current in  
4 the amperes delivered to a fluorescent lamp ballast, as  
6 determined in accordance with the test procedures specified  
8 in the American National Standards Institute standard  
10 C82.2-1984.

12 G. "Luminaire" means a complete lighting unit consisting of  
14 a fluorescent lamp, or lamps, together with parts designed  
16 to distribute the light, to position and protect the lamps  
18 and to connect the lamps to the power supply through the  
20 ballast.

22 H. "Manufacturer" means any person or business entity  
24 engaged in the original production or assembly of a  
26 fluorescent light tube or ballast.

28 I. "Nominal input watts" means the rated input voltage of a  
30 fluorescent lamp ballast.

32 J. "Nominal lamp watts" means the wattage at which a  
34 fluorescent lamp is designed to operate.

36 K. "Operation" means the ability to start the lamp at least  
38 8 times out of 10 with a minimum of one minute between  
40 attempts when tested under test conditions.

42 L. "Power factor" means the power input divided by the  
44 product of input voltage and input current of a fluorescent  
46 lamp ballast.

48 M. "Power input" means the power consumption in watts of a  
50 ballast and fluorescent lamp or lamps.

N. "Relative light output" means the output delivered  
through use of a ballast divided by the light output  
delivered through use of a reference ballast, expressed as a  
percent, as determined in accordance with the test  
procedures specified in the American National Standards  
Institute standard C82.2-1984.

2. Efficacy standards for fluorescent lamp ballasts and  
luminaires. The following are minimum efficacy standards for new  
fluorescent lamp ballasts.

A. Except as provided in this section, the values set out  
in paragraph B apply to any fluorescent lamp ballast:

(1) That is:

(a) Manufactured on or after January 1, 1992;

2                    (b) Sold by the manufacturer after April 1, 1992;  
or

4                    (c) Incorporated into a luminaire manufactured on  
or after April 1, 1992; and

6                    (2) That is designed:

8                    (a) To operate at nominal input voltages of 120  
10 or 227 volts;

12                    (b) To operate with an input frequency of 60  
14 hertz; and

16                    (c) For use in connection with an F40T12, F96T12  
or F96T12HO lamp.

18                    B. A fluorescent lamp ballast that meets the requirements  
20 of paragraph A must have a power factor of 0.90 or greater  
and must have a ballast efficacy factor not less than the  
22 following applicable values:

<u>Ballasts Designed</u> <u>for the Operation</u> <u>of:</u>	<u>Nominal</u> <u>Input</u> <u>Voltage</u>	<u>Total Nominal</u> <u>Lamp Watts</u>	<u>Ballast</u> <u>Efficacy</u> <u>Factor</u>
28 <u>One F40T12 lamp</u>	<u>120</u> <u>277</u>	<u>40</u> <u>40</u>	<u>1.805</u> <u>1.805</u>
30 <u>Two F40T12 lamps</u>	<u>120</u> <u>277</u>	<u>80</u> <u>80</u>	<u>1.060</u> <u>1.050</u>
32 <u>Two F96T12 lamps</u>	<u>120</u> <u>277</u>	<u>150</u> <u>150</u>	<u>0.570</u> <u>0.570</u>
34 <u>Two F96T12HO lamps</u>	<u>120</u> <u>277</u>	<u>220</u> <u>220</u>	<u>0.390</u> <u>0.390</u>

36                    C. The standards described in this subsection do not apply  
38 to the following types of fluorescent lamp ballasts:

40                    (1) Those that have a dimming capability;

42                    (2) Those intended for use in ambient temperatures of  
44 0° Fahrenheit or less; or

46                    (3) Those with a power factor of less than 0.90 and  
that are designed for use in a residential building.

48                    3. Prohibitions. A new fluorescent lamp ballast or new  
50 luminaire containing a ballast may not be sold, offered for sale  
or installed in the State on or after January 1, 1992, unless it  
is certified by the manufacturer to be in compliance with the

standards adopted under this section or unless there is no applicable standard.

4. Test methods. The manufacturer shall cause the testing of samples of each model of ballast and luminaire covered by this section. The Energy Conservation Division shall require the use of test procedures specified in the American National Standards Institute standard C82.2-1984.

5. Administration; enforcement. In order to reduce the wasteful, uneconomic, inefficient or unnecessary consumption of energy, the Energy Conservation Division is responsible for the administration and enforcement of the standards established by this section.

6. Penalty. A person who violates this section either personally or through an agent or employee commits a civil violation for which a forfeiture of not more than \$500 may be adjudged. For purposes of this section, the sale, installation or offer for sale of any one new ballast or luminaire that fails to meet the standards prescribed in subsection 2 constitutes a violation.

Sec. 4. 10 MRSA §1415-C, sub-§1, as amended by PL 1989, c. 75, §5, is further amended to read:

1. Conformance. Any Except as provided in subsection 1-A, any new conditioned space in a residential building built after January 1, 1989 shall must be constructed to meet, at the minimum, the prescriptive ceiling, ~~wall,~~ ~~floor,~~ ~~foundation~~ and window thermal performance characteristics standards set out in this subsection.

A. Ceilings which that face outdoor or unheated space must be insulated to R-38 R-50.

B. Walls which that face outdoor or unheated space must be insulated to R-19 R-24.

C. Floors over unheated spaces must be insulated to R-19.

D. Slab-on-grade floors must have perimeter insulation of either:

(1) R-10 when the insulation extends downward from the top of the slab to the design frost line; or

(2) R-10 when the insulation extends around the perimeter itself and horizontally or diagonally beneath or away from the slab for a distance equivalent to the depth of the frost line.

2 E. Foundation walls below grade enclosing heated spaces  
4 must be insulated from the top of the foundation to the  
6 frost line to R-10.

8 F. All windows must be ~~insulated to R-2,~~

10 (1) Be triple glazed;

12 (2) Be double glazed with a low-emissivity coating; or

14 (3) Have an R-value greater than 3.

16 G. Exterior doors must be insulated to R-8 or must be  
18 equipped with a storm door.

20 H. For new construction only, the building may not have an  
22 air exchange rate greater than 0.3 air changes per hour at  
24 50 pascals.

26 **Sec. 5. 10 MRSA §1415-C, sub-§1-A** is enacted to read:

28 **1-A. Performance-based compliance.** Effective January 1,  
30 1992, the director may waive the requirements of subsection 1 for  
32 any building, if the director determines that the building's  
34 calculated annual energy consumption is not greater than the  
36 annual energy consumption of a similar building constructed in  
38 accordance with subsection 1.

40 The director shall adopt rules that establish a performance-based  
42 compliance procedure for residential buildings before January 1,  
44 1992.

46 **Sec. 6. 10 MRSA §1415-C, sub-§2,** as enacted by PL 1987, c.  
48 818, §4, is repealed.

50 **Sec. 7. 10 MRSA §1415-C, sub-§3,** as enacted by PL 1989, c. 75,  
§6, is amended to read:

3. **Multifamily structures.** Effective January 1, 1990, in  
addition to conforming to the requirements of this section, any  
new construction or renovation of a conditioned space in a  
residential building of more than 2 dwelling units shall must  
conform to the ASHRAE 90 standards under any of the compliance  
methods specified in the standards, if such standards are not in  
conflict with this section. For the purposes of this section,  
conformance to the ASHRAE 90 standards shall consist of these  
standards, which are not in conflict with this section,  
established for the building envelope, heating, ventilating and  
air conditioning systems and equipment, service water heating and  
lighting power limits and controls.



