**18 DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES**

**554 BUREAU OF GENERAL SERVICES**

**Chapter 60: IMPROVEMENT OF ENERGY EFFICIENCY IN STATE-FUNDED CONSTRUCTION**

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**§ 1 – Purpose and Scope**

**Summary**: This section states the purpose and scope of the Bureau’s rules establishing procedures for compliance with energy efficiency standards for the planning and design of public improvements.

5 M.R.S.A. §1764-A authorizes the Bureau to adopt rules addressing methods to improve the energy efficiency and environmental impacts of certain buildings starting in the planning and design phases and requiring documentation that those energy- and environmentally-conscious standards will be effective. The purpose of this Chapter is to implement the Bureau’s rulemaking authority by establishing procedures for documenting analysis of buildings consistent with §1764-A.

STATUTORY AUTHORITY: 30-A M.R.S.A. §§ 5221, 5229

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

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**§ 2 – Definitions**

**Summary**: This section defines certain terms that are used in the rule but that are not defined by 5 M.R.S.A. §1764-A. The term “public improvement” is defined by 5 M.R.S.A. §1741.

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings:

1. **Building**. “Building” means a whole, habitable structure and does not refer to structures that are unheated, or have minimal lighting, or have minimal energy usage such as unheated sheds or cold storage facilities.

2. **Bureau**. “Bureau” means the Bureau of General Services within the Department of Administrative and Financial Services.

3. **Director**. “Director” means the Director of the Bureau of General Services or the Director’s designee.

4. **Designer**. “Designer” means a registered professional engineer who prepares the analysis required by this rule and, for the purposes of this rule, whose documents must be stamped by a professional engineer registered by the State of Maine.

5. **Project**. “Project” means construction, renovation, or other work relating to a public improvement.

6. **Substantially renovated**. “Substantially renovated" means any modification or alteration of an existing public improvement for which the cost exceeds 50% of the building's current value prior to renovation.

STATUTORY AUTHORITY: 30-A M.R.S.A. §5229

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

NON-SUBSTANTIVE CHANGES:

October 18, 2004 - spelling and capitalizations only

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**§ 3 – Compliance Required**

**Summary**: This section defines the buildings that are subject to these Rules.

**1. Generally**

This Rule applies to all planning and design for the construction of new or substantially renovated state-owned or state-leased buildings and buildings built with state funds, including buildings funded through state bonds or the Maine Municipal Bond Bank.

**2. Applicability**

This Rule applies to building construction and renovation projects initiated on or after its effective date.

STATUTORY AUTHORITY: 5 M.R.S.A. §1764-A

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

NON-SUBSTANTIVE CHANGES:

October 18, 2004 - spelling only

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**§ 11 – Standards**

**Summary**: This section describes the requirements for compliance with 5 M.R.S.A. §1764-A and these Rules.

**1. Standards for Compliance**

Designers must demonstrate compliance with these Rules by one of the means set out in Section 21 below.

For each applicable project, building owners subject to this rule shall:

A. Involve consideration of architectural designs and energy systems that show the greatest net benefit over the life of the building by minimizing long-term energy and operating costs.

B. Include an energy-use target that exceeds by at least 20% the energy efficiency standards (ANSI/ASHRAE/IESNA Standard 90.1-2001 hereafter “ASHRAE 90.1”) in effect for commercial and institutional buildings pursuant to Title 10, §1415-D.

C. Include a life-cycle cost analysis that explicitly considers cost and benefits over a minimum of thirty (30) years and that explicitly includes the public health and environmental benefits associated with energy-efficient building design and construction, to the extent they can be reasonably quantified.

The energy costs to be included in the life-cycle cost analysis shall include oil, gas, propane and electric.

The Department shall publish a schedule of energy price forecasts to be used in conjunction with this rule, and shall periodically publish energy price forecast updates when warranted.

The discount rate shall be the rate reflected in the most recent Delphis-Hanover Corporation municipal bond table.

The life cycle cost analysis shall include a comparison between the proposed building design and a building designed in accordance with Title 10, §1415-D.

The proposed building design shall be deemed to comply with Sections 11.1.A and -.B, if the life cycle cost of the proposed building is lower than the life cycle cost of a building designed in accordance with Title 10, §1415-D.

**2. Optional Guidebook(s)**

By January 31, 2005, The Bureau of General Services, in cooperation with the Public Utilities Commission and The Energy Resources Council, shall develop and make available one or more guidebooks, one of which shall be titled “State of Maine High Performance Buildings,” describing methods for achieving compliance with this rule.

At its discretion, the Bureau of General Services, in consultation with the named agencies, may from time to time revise these guidebooks or approve additional guidebooks as acceptable methods of compliancy.

**3. Discretion Allowed**

Designers shall have discretion to utilize sound engineering, architectural and design principles in achieving the energy efficiencies and in developing the life cycle analyses described in this rule, so long as they are able to demonstrate the project meets the requirements of this rule to the satisfaction of the Bureau of General Services.

STATUTORY AUTHORITY: 5 M.R.S.A. §1764-A

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

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**§ 21 – Submission**

**Summary**: This section describes the documentation that will be required to demonstrate compliance with these Rules.

**1. Methods of Compliance**

The Bureau or other reviewing entity will accept a proof of compliance by either a building cost analysis or “comparative” approach, or by using a “prescriptive” approach. To comply with this rule, one of the following methods of compliance must be utilized:

**A. “Comparative” approach exceeding ASHRAE 90.1**. Under a buildingcomparative approach, the person or entity making application will demonstrate that the proposed building design’s overall energy use will be 20% less than the energy use of a building designed in accordance with the standards specified in Title 10, Section 1415-D as described in Chapter 11 of the ASHRAE 90.1 User's Manual.

The demonstration should be conducted in accordance with the guidelines provided in Chapter 11, “Energy Cost Budget Method” of ASHRAE Standard 90.1 – 2001, in which the computer simulation program demonstrates compliance of the proposed design with this rule.

**B. “Prescriptive” approach**. A building also will be deemed to comply with this Chapter under the “prescriptive” approach if the energy-using systems installed in the building are equivalent to or more efficient than the equipment specified in the guidebook(s) referenced in Section 11.2, above.

Guidelines for both approaches described in (A) and (B) above will be included in the E-Benchmarks handbook described in Section 11, above.

**2. Content of Submission**

**Life Cycle Analysis**. Building designs submitted for review under the comparative approach method described in this chapter must include a life cycle cost analysis demonstrating that the life cycle cost of the proposed high efficiency building design is lower than the life cycle cost of the reference building designed in accordance with Title 10, Section 1415-D. Building designs submitted for review under this chapter and incorporating all applicable prescriptive measures specified in the Bureau of General Services’ approved guidebook(s) are exempted from providing a separate life cycle cost analysis.

**3. Timely Submission**

The submissions made pursuant to this section must be made during the early design development phase of the project, but no later than fifty-percent (50%) design development.

STATUTORY AUTHORITY: 5 M.R.S.A. §1764-A

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

NON-SUBSTANTIVE CHANGES:

October 18, 2004 - spelling, punctuation and capitalizations only

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**§ 23 – Approval**

**Summary**: This section specifies that written approval is required before a project may proceed.

**1. Approval**

A project may proceed to subsequent phases of development only upon written approval by the Bureau or other entity with approval authority over a given building.

STATUTORY AUTHORITY FOR ENTIRE CHAPTER:

5 M.R.S.A. §1764-A

EFFECTIVE DATE:

September 18, 2004 - filing 2004-398

NON-SUBSTANTIVE CHANGES:

October 18, 2004

WORD VERSION CONVERSION AND ACCESSIBILITY CHECK: July 8, 2025