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THOMAS L. WELCH
CHAIRMAN

STATE OF MAINE
PUBLIC UTILITIES COMMISSION
242 STATE STREET
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AUGUSTA, MAINE
04333-0018

STEPHEN L. DIAMOND
SHARON M. REISHUS
COMMISSIONERS

January 26, 2004

Honorable Christopher Hall, Senate Chair
Honorable Lawrence Bliss, House Chair
Joint Standing Committee on Utilities and Energy
Honorable Lynn Bromley, Senate Chair
Honorable Nancy Sullivan, House Chair
Joint Standing Committee on Business, Research, and Economic Development
Augusta, ME 04333

Re: Building Energy Codes Final Report

Dear Senator Hall, Senator Bromley, Representative Bliss, and Representative Sullivan:

P.L. 2003, ch. 497 requires the Public Utilities Commission to examine building energy codes and standards and to report its findings and recommendations to the Utilities and Energy Committee by February 1, 2004. Attached are two final reports – one addressing codes and one addressing above-code standards.

We look forward to working with the Utilities and Energy Committee and the Business, Research, and Economic Development Committee on this subject. If you have any questions regarding the report, please contact us.

Sincerely,

Maine Public Utilities Commission
Thomas L. Welch, Chairman
Stephen L. Diamond, Commissioner
Sharon M. Reishus, Commissioner

cc: Utilities and Energy Committee Members
Business, Research, and Economic Development Committee Members
Jon Clark, Legislative Analyst
James Adolf, Legislative Analyst



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**Report on Above-Code Building Energy Guidelines
Presented by the Maine Public Utilities Commission
To the Joint Standing Committee on Utilities and Energy January 26, 2004**

I. Background

P.L. 2003 ch. 497 requires the Maine Public Utilities Commission (Commission) to examine “advanced building guidelines, including, but not limited to, the Leadership in Energy and Environmental Design system, the United States Environmental Protection Agency’s Energy Star buildings system, the State of California’s Collaborative for High Performance Schools guidelines, and the New Buildings Institute’s Advance Building Guidelines.” This report contains the Commission’s findings.

To comply with Chapter 497, the Commission contracted with the Northeast Energy Efficiency Partnership, Inc. (NEEP) to summarize and compare advanced building guidelines and to investigate their adoption in other states. NEEP’s summary comprises Section IV of this report. In addition, the Commission carried out its own research.

II. Summary of Guidelines

The guidelines considered in this study are:

- LEED – Leadership in Energy and Environmental Design, developed by the United States Green Building Council
- E-Benchmark – Energy guidelines developed by the New Building Institute
- ENERGY STAR® – A building energy performance rating developed by the U.S. Environmental Protection Agency
- CHPS – Collaborative for High Performance Schools, developed by the California Energy Commission.

A thorough description of the features and advantages of each guideline is set forth on pages 5 – 20 of the NEEP Report.

Of the four guidelines, LEED, E-Benchmark, and ENERGY STAR® are the most useful to consider. CHPS was developed specifically for California’s climate conditions and is focused on public schools. Maine’s Department of Education, Bureau of General Services, the Maine School Management Association, and Efficiency Maine have collaborated in developing energy efficiency procedures and programs for Maine’s school systems, obviating the need to incorporate a similar program from California.

Among the remaining three guidelines, LEED focuses on sustainable and environmentally friendly building practices, while E-Benchmark and ENERGY STAR® focus specifically on energy efficiency. LEED is an excellent tool for designers who wish to consider a broad array of factors including sustainable siting, water efficiency, energy and atmosphere, material and resources, and indoor environmental quality. However, LEED procedures may result in a building that is either more or less energy efficient than a building constructed to typical prevailing codes, depending on the primary goals of the builder.

E-Benchmark and ENERGY STAR® provide guidelines for constructing buildings whose energy efficiency is superior to that of buildings constructed to typical prevailing energy codes. E-Benchmark guidelines (prescriptive and performance-based) result in buildings that typically perform 20-30% beyond code. ENERGY STAR® does not provide construction guidelines; rather, it is a rating system that determines if a building performs in the top 25% of buildings of a similar type, in the geographic area in which it operates.

III. Findings

The Commission finds that LEED, E-Benchmark and ENERGY STAR® provide useful tools to assist Maine's architects, designers, and builders in constructing energy efficient buildings. However, these tools are most effective when used voluntarily, by builders who wish to accomplish specific environmental or energy goals. Because state government is a builder itself, using these tools in an appropriate way when constructing state buildings is a reasonable option. To facilitate the availability of these tools to the building community, two actions could be taken:

- state agencies that carry out building functions could consider whether any of the three guidelines are useful during construction of a particular building; and
- state entities that provide funding or other support for the building community could consider whether support is warranted for training or other activities offered by the organizations that sponsor these guidelines.

An action consistent with the first recommendation has already been taken in Maine. In November 2003, Governor Baldacci signed an Executive Order requiring that LEED would be considered during construction of all new and renovated state buildings. An example of the second recommendation is found in Maine's High Performance Schools program, through which Efficiency Maine provides financial assistance to participating schools in the form of design, implementation, and LEED/ENERGY STAR® certification grants. In addition, Efficiency Maine has retained the services of a Program Technical Advisor who will review plans and specifications for new schools and provide technical advice

and assistance in energy efficiency to the Department of Education and Bureau of General Services.

Pages 21 – 36 of the NEEP Report summarize the manner in which other states have adopted or promoted LEED, E-Benchmark, or ENERGY STAR®. Many states require that one of these guidelines (or another focused guideline) be “considered” in the construction of public buildings. Others provide financial incentives, through government or electric utility efficiency programs, for training in efficient construction practices. Few require mandatory adoption of an above-code procedure.

Further supporting our finding that above-code guidelines should be voluntary is the basic assumption behind mandatory code adoption. Statutory codes define requirements that offer the best practices for the body of citizens as a whole. State-adopted codes typically reflect the most efficient practices that can realistically be implemented on a wide scale. Above-code standards reflect emerging practices that require additional analysis and experience by the building community. Over time, many of these guidelines become new codes, usually through a stakeholder process. Thus, LEED, E-Benchmark, and ENERGY STAR® should remain voluntary approaches that provide a means by which the building community may discover effective improvements to common practices.

IV. Full Description of Above-Code Guidelines

Attached to this report is “Energy Guidelines, Codes and Standards,” prepared by the Northeast Energy Efficiency Partnerships, Inc. for the Maine Public Utilities Commission.