ASHRAE

Technology for a Better Environment

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August 10, 2009

California Energy Commission
Dockets Office, MS-4
Re: AB1103 Pre-rulemaking Proceeding
1516 Ninth Street
Sacramento, CA 95814-5512

Dear Efficiency Committee Members,

We commend the California Legislature and members of the Energy Commission on their efforts to implement energy performance rating disclosure requirements for non-residential buildings. ASHRAE is pleased to provide information on a relevant program currently underway and recommendations on how the disclosure requirements can be implemented.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), founded in 1894, is an international organization of 52,000 members. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education. ASHRAE has a long history of focusing on reducing the energy use of buildings.

In recognition of the growing need for information regarding energy use and greenhouse gas emissions, ASHRAE launched the *Building Energy Quotient* (*Building EQ*) program. The program is designed to provide building owners and tenants, potential owners and tenants, and the general public with consistent, technically robust information on energy use and opportunities to improve their energy performance. Special attention was given to accommodate emerging requirements for energy use disclosure as is currently being implemented in California. We strongly encourage you to consider recognizing the *Building EQ* program as a means of compliance under AB 1103. Accompanying this letter is a Frequently Asked Questions document outlining the program.

As the Working Group identified, several issues must be considered as the requirements for the California program are implemented. We agree that having the required information early in the sale or leasing process is critical. Having access to such information can give potential owners and tenants the opportunity to compare the energy use of available properties and make decisions based on a building's energy use. This could also serve as an incentive to building owners considering selling or leasing their buildings to undertake efficiency measures.

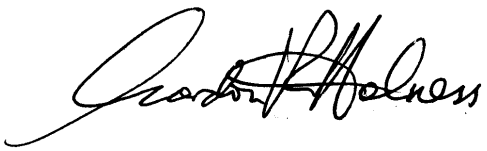
To take advantage of the feedback received through the ongoing availability of information on building energy use, we would recommend requiring the utility submitting energy information to Portfolio Manager to provide building owners with a periodic report illustrating the building's energy use over time. This will encourage building owners and managers to effectively maintain their buildings and identify opportunities to reduce energy use. ASHRAE's *Building EQ* program can provide this type of information on an ongoing basis.

The availability of data on energy use of "typical" buildings by building types is extremely limited thus restricting the availability of an Energy Star rating. Overcoming these data gaps will be critical to the implementation of a comprehensive and effective program aimed at reducing energy use and informing consumers. In the development of the *Building EQ* program, this need became obvious, so we have identified procedures that would allow rating buildings outside the existing Energy Star program.

Accurately portraying the building characteristics that lead to a particular rating will be essential to allow proper comparisons between buildings. In order to avoid the disclosure of potentially misleading information, deviations from the default information provided should require additional documentation or even third party verification.

As you implement these and other programs related to energy efficiency in buildings, please consider ASHRAE a resource. If you wish to discuss the *Building EQ* program further please contact Ryan Colker in ASHRAE's Washington Office (202-833-1830 or rcolker@ashrae.org).

Respectfully Submitted,



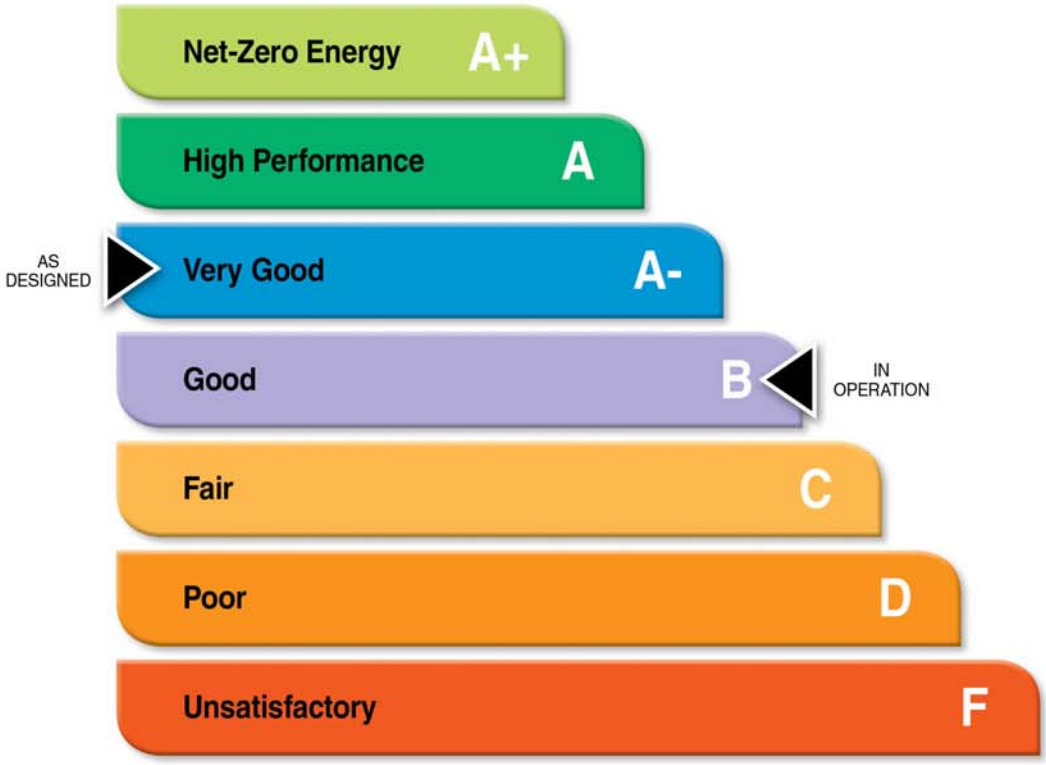
Gordon V.R. Holness

GVRH/rmc

Enclosures: Sample Building Energy Quotient Label
Building Energy Quotient Frequently Asked Questions

B

IN OPERATION



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Building EQ™ administered by ASHRAE.
www.buildingEQ.com

BUILDING ENERGY QUOTIENT™

The Building Energy Quotient™ indicates how much energy this building uses per square foot. The letter rating indicates how this building compares to a typical building and how close the building is to its technical potential—the closer to net-zero energy or A+, the better.

As Designed: Indicates the estimated energy consumption of this building as designed.
In Operation: Indicates the energy consumption of this building in actual use.

Date of Issue:	**June 15, 2009**
As Designed Date:	June 1, 2009
In Operation Date:	June 1, 2010

Building Location:
1000 W. George Washington Blvd.
Anytown, Anystate 12345

Building eQ™

ASHRAE's
Building Energy Labeling Program

Frequently **A**sked **Q**uestions

www.buildingEQ.com

1. What is the purpose of a building energy labeling program?

A building energy labeling program provides the general public, building owners and tenants, potential owners and tenants, and building operations and maintenance staff with information on the potential and actual energy use of buildings. This information is useful for a variety of reasons.

- Building owners and operators can see how their building compares to peer buildings to establish a measure of their potential for energy performance improvement.
- Building owners can use the information provided to differentiate their building from others to secure potential buyers or tenants.
- Potential buyers or tenants can gain insight into the value and potential long-term cost of a building.
- Operations and maintenance staff can use the results to inform their decisions on maintenance activities and influence building owners and managers to pursue equipment upgrades and demonstrate the return on investment for energy efficiency projects.

Probably the greatest benefit from implementation of a building energy labeling program is the use of market-based forces to influence energy efficiency investment opportunities. Building owners will make investments in energy efficiency improvements when such investments will have the greatest impact on their bottom-line. Also, owners will invest in the technologies and practices that make the most sense for their building. When potential building tenants and owners have information on the properties they are interested in (particularly in a consistent format) they can understand the full cost of their investment and place a value on the energy efficiency of the building. The label will help building owners differentiate their product in a technically sound manner.

Beyond the benefit received by individual building owners and managers, the increased availability of building data—specifically the relationship between the design and operation of buildings—will be a valuable research tool for the building community.

2. Why is ASHRAE taking the lead on developing such a program?

ASHRAE is the perfect organization to develop such a label. Given the strong technical expertise of our members, our historic focus on consensus based documents, and the respect and credibility we've earned within the building community ASHRAE has the ideal combination of features. We see the initiation of the ASHRAE supported label falling at just the right time. As the nation looks to reduce its energy use, information is the critical first step in making the necessary choices and changes. With labeling mandatory in Europe and disclosure of a building's energy performance becoming required by several states, now is the time to introduce a label that can serve as the model for mandatory programs. Because of ASHRAE's strong technical background, we are in the best position to identify the types of information necessary to affect the energy use of buildings.

3. What types of ratings can an ASHRAE labeled building receive?

New buildings will be eligible to receive an *As Designed* rating—an *In Operation* rating will be available once the building has at least one year of data on the actual energy use of the building. Existing buildings would be eligible to receive both an *As Designed* and *In Operation* ratings.

The *As Designed* (asset) rating provides an assessment of the building based on the components specified in the design—including mechanical systems, building envelope, orientation, and daylighting. The asset rating will be based on the results of a field inspection and a building energy model.

The *In Operation* (operational) rating provides information on the actual energy use of a building and is based on a combination of the structure of the building and how it is operated. Information learned through subsequent years of operational labels can provide building owners and operations and maintenance staff with valuable insight into how the building performs, opportunities for improvement, and where similar buildings fall in comparison.

4. How is ASHRAE's program different from existing programs?

Unlike existing green building rating systems, ASHRAE's Building Energy Quotient label focuses solely on a building's energy use. This more narrow focus allows greater concentration on building energy use and opportunities for improvement. The label is by no means a replacement for green building rating systems that address the spectrum of considerations that go into development of a green building—in fact, the label could be used to improve the energy component of such rating systems.

The Environmental Protection Agency's Energy Star Program is currently the most widely used program for identifying top energy performing buildings. Rather than re-invent the successes of the Energy Star program, ASHRAE will expand on the type and amount of information the Energy Star program provides. Duplication of the information already submitted through Portfolio Manager will not be necessary.

Currently, the Energy Star Program provides recognition for buildings representing the top 25 percent (without differentiation within the quartile). The Energy Star Program also is limited to building types currently identified by the program. The ASHRAE Building Energy Quotient label will provide a mechanism for providing labels for building types outside the current Energy Star Program. Also, buildings will receive a numerical and qualitative score which is easily comparable across similar buildings. Other value added features of the ASHRAE Label include:

- Potential for side-by-side comparison of *As Designed* and *In Operation* Labels
- Peak demand reduction and demand management opportunities
- Energy use from on-site renewables
- Measurement-based Indoor Environmental Quality (IEQ) indicators to assure levels of service are maintained
- List of operational features including commissioning activities, energy efficiency improvements, plus information on how performance can be improved
- Potential utilization outside of North America for areas without existing labeling programs

5. Who is the target audience for ASHRAE's program?

ASHRAE's program is focused on a variety of audiences with varying levels of technical needs. The label itself will be the most visible aspect of the program. It will be simple to understand and targeted at the general public. It could be used for posting in a building lobby and could satisfy compliance with many of the programs being developed at the state and local level requiring display of energy use.

The certificate will contain additional information of a technical nature that will explain the score on the label and provide information useful to the building owner, prospective owners and tenants, and operations and maintenance personnel. This includes much of the value added features described above.

The documentation accompanying the label and certificate will provide the background information useful for engineers, architects, and technically savvy building owners or prospective owners in determining the current state of the building and opportunities for improving its energy use.

6. How is the ASHRAE program being developed?

The ASHRAE Building Energy Quotient Labeling Program is being developed by an international team of experts in a variety of fields critical to producing a technically sound and widely applicable program. The committee includes members familiar with the Energy Star Program and the European Union labeling programs, building energy modeling experts, and representatives from the utility, government, and advocacy community.

Following development of the initial program, ASHRAE will make use of its broad technical resource network to validate and enhance the program.

7. How does the ASHRAE program fit in with current proposals in Congress?

The proposed language being considered in Congress is the result of ASHRAE's work with advocates and the real estate community to develop a program that can address the national need to save energy and allow for the private sector to develop specific labels and programs that meet the industry's specific needs. Based on lessons learned in the EU and elsewhere, the labeling implementation committee found that it is critical that government be involved in the development and implementation of a labeling program. By laying the ground rules and minimum criteria that should be part of a label, government can assure that the labels developed in the private sector remain technically robust and address the overall national goals of reducing energy use in buildings. Government has a critical role in determining when the label should be required, how and when it should be shared with critical audiences, and the minimum technical requirements to achieve national goals.

8. How is the ASHRAE program similar or different from programs being established internationally?

Following the establishment of building energy labeling requirements within the European Union and elsewhere, ASHRAE has had the opportunity to develop a program that utilizes the lessons learned in the development of those programs. The ASHRAE Building Energy Quotient program intends to make use of a scale that is consistent with activities going on internationally. In North America, it will make use of the existing infrastructure developed by the Energy Star Program. For those areas without existing labeling requirements, mechanisms will be identified for developing relevant building energy criteria.

9. When can I expect the program to be operational?

The first phase of the program—a prototype of a label—will debut this summer. A pilot program is scheduled for the remainder of 2009 with participation by key building community organizations. Widespread availablity of both the *As Designed* and *In Operation* labels is anticipated in 2010.

10. What related activities is ASHRAE pursuing?

In conjunction with the development of the labeling program, ASHRAE will develop the tools and resources to support widespread adoption of the label. This will include educational programs, instruction manuals, technical guidance, and advocacy materials. Also, ASHRAE is in the process of developing a Personnel Certification Program on Energy Modeling. Such a certification will provide a method for assuring a cadre of individuals with the requisite body of knowledge is available to produce the data needed for the asset portion of the label. The certification also will fulfill a need beyond that of ASHRAE's Building Energy Labeling Program. ASHRAE also will be examining the criteria for a Qualified Energy Assessor to assist in the development of the building energy label.

ASHRAE also began an effort to expand the Commercial Building Energy Consumption Survey (CBECS) as it serves as the current baseline for the energy consumption of existing buildings. ASHRAE is working with other building community members to advocate for increased funding for the Energy Information Administration (EIA) to expand existing datasets.

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