

Compliance Form

Notes for Simulation Program Developers

Successful implementation and use of the ECB method depends upon a good simulation program and a good compliance shell. Although some compliance shells may be developed by public sector entities, it is expected that most shells will be software products developed by private entities for sale to designers who wish to use the ECB Method to optimize their building designs and to meet the requirements of the Standard. Because the adopting authorities must approve the software, there is a need for collaboration between them and the software developers. The collaboration begins when the adopting authority approves a compliance supplement that spells out the analysis rules that must be implemented in the compliance shell. In many cases, the software developers will have the most intimate knowledge of these rules, so there is an opportunity for them to provide advice and input to the adopting authorities' compliance supplements. The adopting authorities, in turn, need to provide clear guidance in the compliance supplement to software developers on their intent and interpretation of the Standard, especially if there are any locally adopted amendments. The compliance supplement provides a level playing field for all software developers who wish to develop competing compliance shells, so it is in everybody's interest to see that it is well implemented.

There will be opportunities for creative software developers to implement the ECB method in new ways, for example, by

bundling a compliance shell with an HVAC system design package. There may also be opportunities, through creative user interface design, to make the ECB Method more accessible to a wider audience than the energy simulation specialists who have been the primary users in the past. Software developers will also have the opportunity to extend the scope of the ECB Method as they expand the capabilities of their simulation engines. In some cases, this may entail the adoption of exceptional methods of calculation by the adopting authority, but the ECB Method provides for these kinds of advances (§ 11.2.5).

The following page provides a sample compliance form, the Energy Cost Budget (ECB) Compliance Report form, that conforms to the requirements of the Standard. A modifiable electronic version is included on the CD that accompanied this Manual, and is also available for free download from the ASHRAE website.

This form is intended for use with the ECB method when a compliance shell is not used. If a compliance shell is used, it should automatically generate a version of the compliance report. If this form is used instead, the user should fill in the form using information taken from the output reports of the simulation program.

In addition to this form, the user should submit completed forms from the other chapters of this Manual. Those forms document the proposed design and its features, and they also make it clear where the proposed design under the ECB method differs from the prescriptive requirements. Finally, as noted at the bottom of this form, the user should provide a list that describes all instances

where input assumptions differ between the budget building and proposed design runs.

The ECB Compliance report has several sections designed to make clear to the enforcement personnel what the building characteristics are and how the ECB Method has been applied to it:

- *Project Name and Information:* This section begins with a basic statement that the project complies with the Standard, and notes the date of the plans upon which the compliance runs are based. This section also records basic information about the project, the people involved, the heating fuel, and the weather data used for the ECB analysis. There is also space to summarize the areas and uses within the building.

- *Advisory messages:* This section reports information from the simulation runs that is helpful in identifying modeling problems or special situations.

- *Compliance Result:* This final section is prepared by the person responsible for the compliance submittal to the authority having jurisdiction.

- *Energy and Energy Cost Summary:* These sections summarize the energy use breakouts by end use and by fuel type. They also show the percent difference between the proposed and the budget buildings. When the percentage value is less than 100%, then the proposed design is better than the budget. For compliance, the Cost % difference for "Total incl. Solar" must be less than or equal to one.