California Energy Commssion
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From: Gus Wirth
To: Energy - Docket Optical System;
cc: Bruce Cheney;
Subject: 12-BTSD-06
Date: Tuesday, November 20, 2012 12:48:42 AM

There are several issues with the draft versions of the ""2013 Residential Alternative Calculation Method Reference Manual" as specified in docket 12-BTSD-06.

I have identified the follow which needs clarification or correction:

In the Water Heating Calculation method section E3.3 Cold Water Inlet Temperature the formula appears to be attempting to provide a sinusoidal adjustment to the average temperatures, which can equivalently be reduced to a cosine function with a constant phase offset. Other than THETA all the other factors in the formula reduce to constants. If the intent was to provide an exponentially weighted average then this formula is incorrect.

Is it to be assumed that pi and PI are equivalent?

The formula would be better understood if the parenthesis around (pi/PB) were moved so the that the formula then becomes:

Tground(THETA)=TyrAvg - 0.5 * (TyrMax - TyrMin) * COS(2*pi (THETA/BP) - PO -PHI) * GM

This more clearly identifies the sinusoidal nature of the number and makes it more in line with standard mathematical notation.

Section E4 Hourly Recirculation Heating Loss, something went wrong with the rendering of the PDF document. Equations RE-14, RE-15, RE-16, RE-18, Voln and many more are unreadable.

Page ?-17 needs a grammatical fix. The statement:

Propose designs shall use the branch configurations as those in the standard design. Therefore, compliance software do not need to collect branch design information.

should read:

Proposed designs shall use the same branch configurations as those in the standard design. Therefore, compliance software does not need to

collect branch design information.

Footnote 3 on the bottom of page ?-19 has an extraneous number after the BTU's for the oil heater.

Page ?-20 WHEU should read "Hourly electric energy use ...", also on page ?-22.

Respectfully,

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