

From: Mark Stanga <mstanga@verizon.net>
To: DWare@energy.ca.gov
Date: 1/26/2012 9:29:32 PM
Subject: Response to Pat Splitt's Email Dated January 26, 2012

CC: lee.smith@daikinac.com

Dave, here is Daikin's response to the email that Pat Splitt sent you yesterday.

The email makes two points. First, it suggests that the CEC should combine Daikin's Altherma compliance option request with another compliance option proposal that the commenter is advocating. This is a reiteration of the same point this person made during the November 30 public workshop webinar, and it does not provide a basis to reject, or to further delay the consideration of, Daikin's compliance option request.

The second comment is that the presumptive COP developed by the CEC staff and contained in the proposed Altherma compliance option does not adequately account for indirect storage tank losses from the domestic hot water tank component of the Altherma system. As summarized below and explained more fully in the attached response document, this comment is premised on a basic misunderstanding of the operation of the Altherma system. The commenter's concern does not apply to the COP value contained in the proposed Altherma compliance method because the Altherma system operates differently from the other types of combined hydronic systems contemplated in the Title 24 regulations which the commenter apparently had in mind when making the comment.

Unlike the combined hydronic systems contemplated by the commenter, Altherma operates in either heating mode or in domestic hot water mode separately, but never at the same time. To segregate these functions which do not segregate heating function and domestic hot water production, Altherma uses a 3-way diverting valve (see attached response document diagram) to either supply heat or to generate domestic hot water as required at any given time. This functional segregation in Altherma is also present during the cooling mode, so the system always separately achieves space cooling (as well as heating) and domestic hot water production. Thus, with Altherma there is no possibility of domestic hot water storage tank losses affecting the efficiency or performance of the heating or cooling functions.

Because of how Altherma operates, the COP value developed by the CEC staff and contained in the proposed Altherma compliance option does not inflate the simulated energy performance of Altherma's heating and cooling operations by failing to account for indirect storage tank losses, and the proposed COP does not need to be adjusted to compensate for indirect domestic hot water storage tank losses.

I look forward to seeing you again at the February 8 business meeting, which will be seventy days after the public workshop date for this compliance option. In the meantime, please let me know if you have any more questions or require any more information.

Mark Stanga
for Daikin AC (Americas), Inc.
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