

From: Energy - Title24
Sent: Monday, June 01, 2015 11:44 AM
To: Energy - Docket Optical System
Subject: FW: CBECC

California Energy Commission

DOCKETED

15-BSTD-01

TN # 75826

JUN 01 2015

Hello Dockets,

Please docket the following into Docket #15-BSTD-01.

Thank you,

Hamed

From: GREG DAVIS [<mailto:gdmengrinc@sbcglobal.net>]
Sent: Monday, June 01, 2015 7:21 AM
To: Energy - Title24; DL CCS NOR SUS CBECC; Roger NOR Hedrick; Energysoft Support
Subject: CBECC

Title24 - this needs to go to the board and be entered as part of the comments on the 2016 code cycle...

Ran into another issue this weekend using CBECC - It has to do with the portion of unmet heating and cooling load hours and low air flow

1) Unmet load hours -

From engineering perspective, Leasees and the owners don't care if the loads are not met all of the time. All that happens in those spaces is gets warmer or it gets colder than called for in the space temp setpoints. The DOE2 portion used by CBECC according to the error log can be setup adjust the actual temperatures in the space to match the unit capacity, ie if the space is 74 when its 95 outside, at 105 and the load cannot be satisfied, All that has to be done is to write an iteration program to take the setpoints up and raise the unit temp discharge points with its capacity as the limit and determine the entering and leaving conditions until the loop closes. The space temp can wind up being 78-85 in the space with a unit discharge temp at 61 or 62.

These areas are as follows that we let "float":

Product store rooms, Laundromats, Kitchens, Warehouses, Some office spaces, Some retail spaces, etc...

a lot of this depends on the owner, Leasee and what they will tolerate for cost vs long term occupancy. The job I found this one on was a Party City in Livermore. The Leasee says I, the engineer of record, will use 30 tons on the store, but the CBECC says it needed 45. The CBECC also said because the furnace in one unit serving the warehouse was too small, the heating loads were unmet. When space changed temps to 65, it ran. So the compliance has 40 tons to get it to run, larger heaters, etc., whereas the dwgs only have 30 tons with the gas input capacities they called

for. Version three does not return any error messages for these problems. It does not even appear in the error log unless you look in the "ap" directory.

Bottom line, WE DONT CARE if it gets warm or cold. Let it Float

Second - Low airflow - There are many times we design systems with airflows in the 225-275 cfm per ton range. They are in large hi capacity seating venues with a hi outside air load. The CBECC program will not run giving an error that the cfm across the coi is too low. Nor does it give you an error message in the version of this problem. the system needs again to use an iterative approach to close in the conditions in the space and the unit. Psych chart shows it works, but CBECC says no....I discovered this by accident on the above job.

Funny, I've lost track of how many Churches and Auditoriums, Convention centers, Kitchens for hospitals I have done this way over the last 30 years.

Let me know if these are addressed in ver 4 since it has been released..

Greg Davis, PE M29759

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