

DOCKETED

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comments on CH 3-5

see attached

Additional submitted attachment is included below.

To: CEC
From: Jeff Stein
Subject: Comments on Chapters 3, 4, 5
Date: February 5, 2018

1. Please fix the typo in 120.3(a) by changing

- a. From this: "Space Cooling Systems. All refrigerant suction, chilled water, and ~~brine lines~~fluid distribution systems"
- b. To this: "Space Cooling Systems. All refrigerant suction, and chilled water, ~~and brine lines~~ fluid distribution systems"

Rationale: the "and" should have been moved when brine was deleted. There are 2 types of fluid distribution systems here: refrigerant suction distribution systems and chilled water distribution systems.

2. Please delete section 130.5(b) Separation of Electrical Circuits for Electrical Energy Monitoring.

Rationale: This is enormously expensive and not remotely cost effective. Few owners will pay for the submeters even if the circuits are separated and fewer still will look at the data and fewer still will know how to use the data to save energy.

3. Please delete section 130.5(d) Circuit Controls for 120-Volt Receptacles and Controlled Receptacles.

Rationale: This is also enormously expensive and not remotely cost effective. Occupants will not want their computers and other devices to shut off at night because they will lose data and remote functionality and waste time restoring devices and applications to desired functionality every morning. So they will quickly learn not to plug anything into the controlled outlets. Instead they will plug everything into the uncontrolled outlets.

4. Please add the underline language below to the new Exhaust System Transfer Air:

Exhaust System Transfer Air. Conditioned supply air delivered to any space with mechanical exhaust shall not exceed the greater of:

1. The supply flow required to meet the space heating or cooling load; or
2. The ventilation rate required by the authority having jurisdiction, the facility Environmental Health and Safety Department, or by Section 120.1(c)3; or
3. The mechanical exhaust flow minus the available transfer air. Available transfer air shall be from another conditioned space or return air plenums on the same floor and same smoke or fire compartment, and that at their closest point are within 15 feet of each other. Transfer air is only available if it:
 - a. is not required to satisfy other exhaust needs, and



- b. is not required to maintain pressurization of other spaces, and
- c. is transferable according to applicable codes and standards and to the class of air recirculation limitations in the California Mechanical Code

Rationale: These additional criteria are in ASHRAE 90.1 and are needed to properly define transfer air and prevent forcing someone to transfer air that is needed elsewhere for pressurization or exhaust or is unsafe to transfer because it comes from a less safe classification – e.g. you cannot transfer from a lab to an office.

5. Please add the underline language below to the new Exhaust System Transfer Air:

EXCEPTION 3 to Section 140.4(o): Spaces that are required by applicable codes and standards to be maintained at a **positive** pressure differential relative to adjacent spaces.

Rationale: Positive is in the 90.1 wording. If the space is required to be maintained at negative pressure then there is no problem transferring air to it. One could argue that almost any space with exhaust, like a toilet room, is required by the standard of care to be maintained at negative pressure to prevent odor migration. So it is important that this exception be limited to positive pressure spaces.

6. Please delete this proposed exception: ~~EXCEPTION 4 to Section 140.4(o): Spaces where the highest amount of transfer air that could be used for exhaust makeup may exceed the available transfer airflow rate and where the spaces have a required negative pressure relationship.~~

Rationale: This comes from the 90.1 version but it is not needed. Just because a space needs to be negative doesn't mean you shouldn't still transfer the available transfer air. If the available transfer air cannot meet the entire exhaust need then you can have a second source of makeup air. We do this all the time with labs, kitchens, etc.

If you do not agree with deleting this exception then please make it match the 90.1 version, i.e. add the following sentence from 90.1: "For spaces taking this exception, any transferable air that is not directly transferred shall be made available to the associated air-handling unit and shall be used whenever economizer or other options do not save more energy". This will save energy because the transfer air is still transferred indirectly thereby saving the need to fully condition more outside air. For example, suppose there is an office space with 500 cfm of available transfer air next to a lab space with a 1000 cfm fume hood. Just because the office cannot provide 100% of the fume hood makeup doesn't mean that you shouldn't at least indirectly transfer the 500 cfm to the lab space. This will save an additional 500 cfm of OA conditioning.