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2025 Energy Code Update Rulemaking

Additional submitted attachment is included below.



April 26, 2024

CEC Docket: 24-BSTD-01

Re: 2025 45 Day Title 24 Part 6 Energy Standards NRACM – **3rd Docketed Letter**

Per the Draft 2025 Nonresidential HVAC Performance System Map, the new zonal HVAC system requirements of §140.4(a)3E only apply to office and school buildings.

3. **Multizone zone space-conditioning system types.** Multizone space conditioning systems in office buildings and school buildings not covered by Section 140.4(a)2 shall meet the following requirements:-
 - A. **Offices.** Office buildings shall use space conditioning systems complying with one of the following requirements:
 - i. The space conditioning system shall be a variable refrigerant flow (VRF) heat pump system with a dedicated outdoor air system (DOAS) providing ventilation. Indoor fans shall meet the requirements of Section 140.4(a)3D. The DOAS shall comply with Section 140.4(a)3E; or-
 - ii. The space conditioning system shall be a four-pipe fan coil (FPFC) system with a DOAS providing ventilation. The FPFC hot water coils shall be supplied by an air-to-water heat pump (AWHP) space-heating hot water loop which complies with Section 140.4(a)3C. The DOAS shall comply with Section 140.4(a)3E; or-
 - iii. The space conditioning system shall utilize heating supplied through a hot water loop served by an AWHP which complies with Section 140.4(a)3C. Ventilation systems shall include DCV in all zones. All air systems shall be equipped with a heat recovery system in compliance with Section 140.4(q). A hydronic recirculated-air heating system complying with Section 140.4(a)3F shall be used in climate zone 16.
 - B. **School buildings.** The space conditioning system shall be four-pipe fan coil (FPFC) terminal units with a DOAS providing ventilation. The FPFC hot water coils shall be supplied by an air-to-water heat pump (AWHP) space heating hot water loop which complies with Section 140.4(a)3C. The DOAS shall comply with Section 140.4(a)3E.

These are the definitions of these building types:

Office Building is a building of CBC Group B Occupancy with building floor areas in which business, clerical or professional activities are conducted.

School Building is a building used by an educational institution. The building floor area can include classrooms or educational laboratories, and may include an auditorium, gymnasium, kitchen, library, multipurpose room, cafeteria, student union, or workroom. A maintenance or storage building is not a school building.

Please remove “financial institution” from the Office Mapping table since this is NOT supported in 140.4(a)3E.

Financial Institution Building is a building with floor areas used by an institution which collects funds from the public and places them in financial assets, such as deposits, loans, and bonds.

Office Mapping

Description	Floors	Climate Zone	Capacity	System
Office, <u>financial institution</u> , and library < 25,000 ft ²	4 - 5 floors	All	No limit	System 15 - VRF + DOAS
Office, <u>financial institution</u> , and library 25,000 – 150,000 ft ²	≤ 5 floors	All	No limit	System 15 - VRF + DOAS
Office, <u>financial institution</u> , and library ≤ 150,000 ft ²	> 5 floors	All	No limit	System 14 - <u>AWHP+FPFC</u>
Office, <u>financial institution</u> , and library > 150,000 ft ²	No limit	All	No limit	System 14 - <u>AWHP+FPFC</u>

In regard to the changes being made for alterations (Table 2A), would a single-zone dual-fuel heat pump be considered equal to a single-zone heat pump?

Table 2A. Nonresidential HVAC System Map (Alterations)

<u>Space Type</u>	<u>Above-Grade Floors</u>	<u>Climate Zone</u>	<u>System Cooling Capacity</u>	<u>Standard Design</u>
<u>Retail or grocery¹</u>	<u>Buildings <=2 floors</u>	<u>3-13 and 15</u>	<u><65 kBtu/h</u>	<u>System 3b - SZHP</u>
<u>Retail or grocery¹</u>	<u>Buildings <=2 floors</u>	<u>1, 2, 14 and 16</u>	<u><65 kBtu/h</u>	<u>System 3a - SZAC</u>
<u>Retail or grocery¹ total building area < 25,000 ft²</u>	<u>Buildings =3 floors</u>	<u>3-13 and 15</u>	<u><65 kBtu/h</u>	<u>System 3b - SZHP</u>
<u>Retail or grocery¹ total building area < 25,000 ft²</u>	<u>Buildings =3 floors</u>	<u>1, 2, 14 and 16</u>	<u><65 kBtu/h</u>	<u>System 3a - SZAC</u>
<u>School² and total building conditioned floor area < 150,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>1-15</u>	<u>< 65 kBtu/h</u>	<u>System 3b – SZHP</u>
<u>School² and total building conditioned floor area < 150,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>16</u>	<u>< 65 kBtu/h</u>	<u>System 3b – SZAC</u>
<u>Office, financial institution and total building area < 25,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>3-13 and 15</u>	<u>< 65 kBtu/h</u>	<u>System 3b – SZHP</u>
<u>Office, financial institution and total building area < 25,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>1, 2, 14 and 16</u>	<u><65 kBtu/h</u>	<u>System 3a - SZAC</u>
<u>Library and total building area < 25,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>1, 3-15</u>	<u>< 65 kBtu/h</u>	<u>System 3b – SZHP</u>
<u>Library and total building area < 25,000 ft²</u>	<u>Buildings ≤ 3 floors</u>	<u>2 and 16</u>	<u><65 kBtu/h</u>	<u>System 3a - SZAC</u>

Sincerely,



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