



2016 Pre Rulemaking Workshop

§140.0-140.5

California Energy Commission

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Changes to §140.3

Tables 140.3-B and C Prescriptive Envelope Criteria

- Changes were made to the maximum U-factors of the Opaque Envelope requirements for both Nonresidential and High-Rise Residential buildings. As a bench mark ASHRAE 90.1 was used but we looked at a range of assemblies to determine the best performing assembly that is cost effective.

Table 140.3 Roof/Ceiling Insulation Tradeoff for Aged Solar Reflectance

- updated based on the new proposed U-factors in Table 140.3-B and C.

Tables 140.3-D Prescriptive Envelope Criteria for Relocatable Public Schools

- Work in progress and clean up for clarity



Changes to §140.4(e)1, 4 & 5 and §140.4(m)

Clarification language

- Economizers are to be required for each cooling “air handler” over 54kBtu vs cooling “fan system”
- Dampers capable of modulating to fully Open/Closed instead of design supply air quantity
- Removed repetitive language about capacity
- Removed effective dates triggering multiple stages of cooling capacity
- Economizer damper leakage certified “to” the Energy Commission
- Removed effective dates triggering fan speed controls



New §140.4(n)

Mechanical System Shut-off:

- Operable windows or doors that serve a space with a thermostat must be equipped with interlock controls.
- If a window/door is open for more than 5 minutes, the interlock control will adjust heating/cooling setpoint
- Door/window control will:
 - Disable mechanical cooling or adjust temperature setpoint to 55 °F
 - Disable mechanical heating or adjust temperature setpoint to 90 °F

Exceptions:

- Doors has automatic closure
- Doors/Windows serving spaces that do not have thermostatic control
- Not required for alterations



New Compliance Option – Thermally Driven Chillers

The current simulation engine for CBECC-Com is EnergyPlus, which can already simulate Absorption and Desiccant Chillers.

Changes to EnergyPlus:

- Add Adsorption Chiller object to simulate chiller performance (proposed changes in Section 8 of CASE Report)

Changes to NRACM:

- Add Absorption, Adsorption and Desiccant “Chiller Type”
- Add new “Input Fuel” for waste hot water, solar hot water and condenser heat in their various forms
- On-site renewable energy sources or recovered energy shall not be considered at no cost and excluded in the budget.