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STATE AND CONSUMER SERVICES AGENCY
CALIFORNIA BUILDING STANDARDS COMMISSION
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Office Use Item No. _____

PARTICIPATION COMMENTS FOR THE NOTICE DATED AUGUST 24, 2012
Written comments are to be sent to the above address.

WRITTEN COMMENT DEADLINE: OCTOBER 8, 2012

Date: 10/8/12

From:

Tracy Quinn
Name (Print or type) (Signature)

-- Natural Resources Defense Council
Agency, jurisdiction, chapter, company, association, individual, etc.

1314 2nd Street Santa Monica CA 90401
Street City State Zip

I/We (do)(do not) agree with:

[NA] The Agency proposed modifications As Submitted on Section No. _____

and request that this section or reference provision be recommended:

[] Approved [] Disapproved [] Held for Further Study [x] Approved as Amended

Suggested Revisions to the Text of the Regulations:

418.0 Shower and Tub-Shower Combination Control Valves. Showers and tub-shower combinations in all buildings shall be provided with individual control valves of the pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve type that provide scald and thermal shock protection. These valves shall conform to ASSE 1016 or ASME A112.18.1/CSA B125.1 when tested at a flow rate of 1.5 gpm ± 0.1 gpm (5.75 L/m ± 0.35 L/m). Such valves shall be installed at the point of use. Such valves shall be factory marked with the manufacturer's minimum rated flow and such marking shall be visible at final inspection. Such valves shall be factory marked with the manufacturer's minimum rated flow and such marking shall be visible at final inspection. Such valves shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturers' instructions.

_____Gang showers, when supplied with a single temperature-controlled water supply pipe, may be controlled by an approved automatic master thermostatic mixing valve in lieu of individually controlled pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valves. These valves shall conform to ASSE 1069 or CSA B125.3 when tested at a flow rate of 1.5 gpm ± 0.1 gpm (5.75 L/m ± 0.35 L/m), or each shower head shall be individually controlled by a balanced- pressure, thermostatic or combination balanced- pressure/thermostatic valve that conforms to ASSE1016 or ASME A112.18.1/CSA B125.1 when tested at a flow

rate of 1.5 gpm ± 0.1 gpm (5.75 L/m ± 0.35 L/m) and is installed at the point of use. Such valves shall be factory marked with the manufacturer's minimum rated flow and such marking shall be visible at final inspection. Such valves shall be equipped with a means to limit the maximum setting of the valve to 120°F (49°C), which shall be field adjusted in accordance with the manufacturers' instructions. Handle position stops shall be provided on such valves and shall be adjusted per the manufacturer's instructions to deliver a maximum mixed water setting of 120°F (49°C). The water heater thermostat shall not be considered a suitable control for meeting this provision.

Reason: The thermal protection afforded by shower valves can be compromised if the flow rate of the showerhead is less than the flow rate for which the protective components of the valve have been designed. As noted by Martin and Johnson (2008) (as cited in codes and Standards Enhancement Initiative (CASE), "Multi-Head Showers and Lower-Flow Shower Heads." 2013 California Building Energy Efficiency Standards, California Utilities Statewide Codes and Standards Team. September 2011), combinations of valves and shower heads were tested to determine whether pressure-compensating valves and thermostatic valves rated for 2.5gpm would perform adequately at lower flow rates. The tests included 22 shower valves from six manufacturers, and the valves were assessed on their ability to maintain water temperature within certain bounds for a given time after a change in pressure event. as described by the ASSE 101 6-2005 standard for shower valves. The results indicated that a significant share of shower valves rated for 2.5 gpm failed to provide the thermal protection specified by ASSE 1016 when tested at lower flow rates, As summarized in the CASE report (p. 1 5): "These results indicate that shower valve temperature maintenance is strongly affected by flow rate, and that new showers with lower-flow shower heads would have to be installed with valves that are designed for 2.0 and lower flow rates."

Showerheads with maximum flow rates below 2.5 gpm are widely available on the market today, and simple replacement of a showerhead is typically not subject to code. Since shower valve components are located behind finished walls, replacement of showerheads is likely to be more frequent than replacement of shower valves. This proposed change seeks to reduce the likelihood that consumers replacing a showerhead will compromise the thermal protection offered by a building subject to this code by ensuring that shower valves can fully accommodate showerheads with lower flow rates than the current maximum federal standard of 2.5 gpm. The current EPA WaterSense specification for showerheads has a maximum flow rate of 2.0 gpm, and many showerheads are already available with flow rates between 2.0 and 1.5 gpm. As manufacturers continue to innovate with more water- and energy-efficient showerheads, the code change proposed here will help ensure that new buildings built to this code can safely accommodate showerheads with lower flow rates that may be selected by building occupants in future years.

Note that this language does not require that the showerhead itself have a flow rate of 1.5 gpm, but simply that the shower valve provide the thermal protection called for under the recognized standard when tested at a flow rate as low as 1.5 gpm.

Cost Impact: Conforming products are on the market today without a significant cost premium. The code change proposal will not increase the cost of construction.