

Public Comment on HCD Amendments to 2009 IRC Chapter 10
Published in the Proposed Express Terms dated September 21, 2009

Submitted by James E. Russell, P.E. November 6, 2009

I believe that to effectively implement the intent of the HCD amendments in Chapter 10, to 2009 IRC sections R1001.3, R1001.4, R1003.3, R1003.4 and Table R1001.1 that add Seismic Design Category C to the classifications where reinforcing and anchorage of masonry chimneys is applicable, and to positively insure that these sections are applied to detached one- and two-family dwellings, instead of only to townhouses, additional language is needed in those sections.

The current exception in 2009 IRC Section R301.2.2 exempts detached one- and two-family dwellings from the seismic requirements of the IRC. Because the HCD amended sections in Chapter 10 are each titled as either *seismic reinforcing* or *seismic anchorage*, the current R301.2.2 exception would signify that these “*seismic*” titled sections only apply to townhomes in Seismic Design Category C, because detached one- and two-family buildings are exempt.

The current (2009) edition of the IBC contains language in its sections 2113.3 and 2113.4 whereby in Seismic Design Category C, minimum reinforcing and anchorage requirements are required for all masonry chimneys, regardless of the use or occupancy of the building.

In addition, all prior California Building Code editions based upon the Uniform Building Code going back to the 1973 edition of the UBC have required minimum reinforcing and anchorage of masonry chimneys regardless of the use or occupancy of the building. This requirement was based upon the documented observed poor performance of unreinforced / unanchored masonry chimneys during even moderate earthquakes.

Further, the Masonry Institute of America’s (MIA) second edition of a 1974 publication titled *Residential Fireplace and Chimney Handbook – Design Specifications Construction Code Requirements* specifies this minimum reinforcing and anchorage. This MIA publication is based upon 1973 UBC Chapter 37, and the HUD (federal) minimum property standards Manual of Acceptable Practices Section 604.7, both of which are printed in that Masonry Institute of America’s publication.

Because HCD has not justified any reason to reduce the minimum safety protections provided during three and one-half decades of enforcement of codes in California, that specifically required minimum reinforcing and anchorage of masonry chimneys, these requirements should continue to apply to all detached one- and two-family dwellings.

Public Comment on HCD Amendments to 2009 IRC Chapter 10
Published in the Proposed Express Terms dated September 21, 2009

Submitted by James E. Russell, P.E. November 6, 2009
Page 2 of 2

To accomplish what I believe was intended, I suggest the following clarification be made a part of the 2010 California Residential Code, by further revising each of the four sections in Chapter 10 that have already been revised in September 21, 2009 Express Terms language, to make the necessary scoping change clear. To accomplish the extension of the chimney reinforcing and anchorage requirements to one- and two-family dwellings, the following additional wording is proposed in those four sections:

R1001.3 Seismic reinforcing. Masonry or concrete chimneys in all structures regulated by this code assigned to Seismic Design Category C, D₀, D₁ or D₂ shall be reinforced. Reinforcing shall conform to the requirements set forth in Table R1001.1 and Section 609, Grouted Masonry.

R1001.4 Seismic anchorage. Masonry or concrete chimneys in all structures regulated by this code assigned to Seismic Design Category C, D₀, D₁ or D₂ shall be anchored at each floor ceiling or roof line more than 6 feet (1829 mm) above grade except where constructed completely within the exterior walls. Anchorage shall conform to the requirements of Section R1001.4.1.

R1003.3 Seismic reinforcing. Masonry or concrete chimneys shall be constructed, anchored, supported and reinforced as required in this chapter. In all structures regulated by this code assigned to Seismic Design Category C, D₀, D₁ or D₂ masonry and concrete chimneys shall be reinforced and anchored as detailed in Section R1003.3.1, R1003.3.2 and R1003.4. In Seismic Design Category A and B ~~or C~~, reinforcement and seismic anchorage is not required.

R1003.4 Seismic Anchorage. Masonry and concrete chimneys and foundations in all structures regulated by this code assigned to Seismic Design Category C, D₀, D₁ or D₂ shall be anchored at each floor, ceiling or roof line more than 6 feet (1829 mm) above grade, except where constructed completely within the exterior walls. Anchorage shall conform to the requirements in Section R1003.4.1.

I believe that based upon Section 1.1.7.2 in the HCD Chapter 1 Division I amendments to the 2009 IRC, once the wording shown above is added into these specific sections in Chapter 10, that those sections will govern over the general provision of Section R301.2.2 Exception, and therefore will allow enforcement of those sections to be applied to one- and two-family dwellings in Seismic Design Category C.

Respectfully Yours,
James E. Russell, P.E.