BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing

AIBC, APEGBC, BOABC, POABC

File No: 12-0020 **INTERPRETATION**

Interpretation Date:	March 18, 2014
Building Code Edition:	BC Building Code 2012
Subject:	Drop-in Anchors
Keywords:	Power-actuated fasteners, drop-in anchors
Building Code Reference(s):	4.1.8.18.(1), 4.1.8.18.(2), 4.1.8.18.(8)(d)

Question:

Can power-actuated fasteners or drop-in anchors be used to support elements and components of buildings listed Table 4.1.8.18. for seismic tensile loading?

Interpretation: No.

Sentence 4.1.8.18.(8) requires connections to the structure of elements and components listed in Table 4.1.8.18. be designed to support the component or element for gravity loads, to accommodate building deflections and the element or component deflections, and shall be designed for lateral force, Vp, as described in Sentence 4.1.8.18.(1).

Clause 4.1.8.18.(8)(d) states that power-actuated fasteners and drop-in anchors shall not be used for tension loads.

The NBC 2010 Structural Commentaries explained that "power-actuated connections, such as nails and bolts in concrete and shallow drop-in-type anchors, shall not be used for tension loading. This restriction is placed on these types of connections because of their inability to withstand the cyclic tensile loading imposed by seismic response."

Sentence 4.1.8.18.(2) exempts Categories 6 through 21 of Table 4.1.8.18. from having to be designed for lateral force, Vp, for buildings in low seismic area, other than post-disaster buildings, where $I_E F_a S_a(0.2)$ is less than 0.35.

It is interpreted that power-actuated fasteners and drop-in anchors cannot be used in post-disaster buildings and buildings where $I_E F_a S_a(0.2) \geq 0.35$ if they are subject to cyclic tensile loading imposed by seismic response.

R. J. Light, Committee Chair