

The 1997 UBC Handbook States:

“The basic requirement of Section 3403.2 is that any structural alteration or repair made to an existing building fully comply with all applicable provisions of the currently adopted code. Prior to the 1994 edition, there were no provisions to address voluntarily increasing the strength or stiffness of an existing building’s lateral-force-resisting system. If such work were to be undertaken, then full compliance with the current code would be required. An exception now permits such voluntary strengthening.

This exception permits existing structural elements to be altered and new structural elements to be installed for the purpose of increasing the strength or stiffness of the lateral-force-resisting system. The exception specifies that the design forces need not comply with the current code requirements. No force level is specified. However, the exception states that the capacity of existing structural elements required to resist forces may not be reduced; thus, compliance with forces at least equal to original design force levels seems to be implied.

Before the exception was added to the code, there was a disincentive for improving lateral-force-resisting elements because one had to either provide full compliance or do nothing.

Improving the lateral-force-resisting capacity of a building’s structural system can be extremely beneficial, even when it is not possible to gain full compliance with current code force levels. This should encourage rather than discourage strengthening. The exception states that work may be undertaken when not required by Section 3401. Since Section 3401 does not specifically address structural work, the intent of the reference is not clear.

What is clear from the original proposal is that the exception was intended to apply only when voluntary strengthening of an existing building was proposed. The exception should not be used as a reason for reducing force levels to be taken by existing lateral force-resisting elements which will be used to brace an addition.”