

# Pre-1992 buildings are not 'modern', earthquake engineers say

**B**uildings constructed before the New Zealand Building Act 1991 and consequential Building Regulations 1992, including the Loadings Code of Practice NZS 4203: 1992, should not be regarded as "modern", according to the New Zealand Society for Earthquake Engineering.

"The Pyne Gould and the CTV buildings which collapsed in the February 22, 2011 earthquake have been routinely referred to as 'modern buildings'," NZSEE executive officer Win Clark says.

"However, if commentators or the media are referring to 'modern buildings' in terms of earthquake-resistant performance, it is important to understand the many changes that have been made to the way buildings are designed and constructed since building standards were first introduced in New Zealand following the 1931 Hawkes Bay earthquake.

"For instance, the Pyne Gould building is understood to have been built in about 1963, and the CTV building designed around 1975 and built in 1979.

"There have been a number of significant changes to

New Zealand building standards since these buildings were originally designed and built."

Updates to the codes in the past 50 years include amendments in 1965, 1976, 1984, 1992 and 2004, adding requirements to accommodate changes in building design loads and detailing.

"The changes in 1976 introduced modern seismic codes in New Zealand, and the 1992 amendments updated standards for loadings and use of materials, outlining how a building must perform to withstand the forces expected during an earthquake," Mr Clark says.

"The 2004 Building Act included a requirement for territorial authorities to put earthquake-prone building policies in place.

"In that same year the Loadings Code was updated, with Standards New Zealand publishing *Structural Design Actions Part 5: Earthquake Actions – New Zealand, NZS 1170.5: 2004*.

"This standard incorporated the latest research and understanding on how to improve the life safety performance of buildings during a severe earthquake."