Opinion: B.C. started with schools and now must prepare other structures

Province needs to ensure all public buildings are earthquake ready

BY ANN ENGLISH, SPECIAL TO THE VANCOUVER SUN MARCH 24, 2014

Workers install wall improvements at Mckenzie elementary school in Victoria in July, 2011, as part of seismic upgrades to the school.

Photograph by: ADRIAN LAM, TIMES COLONIST

British Columbians who live on the south coast can marvel at how lucky we are to call this place home. However, B.C.'s engineers and geoscientists understand — perhaps more acutely than most — that our extraordinary natural beauty is paired with the ever-present danger of a significant earthquake. And that makes living in paradise just a little more complicated.

The question is not if a significant earthquake will hit B.C. (since 1872, nine earthquakes greater than magnitude 6 have shaken our region, most recently near Haida Gwaii in 2012.), but when. The only question is when our luck runs out and such an earthquake occurs in a much more populated area. As the 6.3-magnitude earthquake that shook Christchurch, New Zealand, in 2011 demonstrated, when such an earthquake hits, significant damage ensues.

Given the inevitability of a damaging earthquake on B.C.'s south coast, our first responsibility is to protect the most vulnerable among us from harm. That's why the Association of Professional Engineers and Geoscientists of British Columbia welcomes the consultation and public education campaign on earthquake preparedness and response recently announced by the B.C. government.

APEGBC already has deep experience in this area, as a result of our work with the B.C. government and the University of British Columbia to address seismic upgrades at B.C. schools. The B.C. School Seismic Mitigation Program is a tremendous success story; so much so, that the United States Federal Emergency Management Agency and the Israeli government now look at it as a planning model. And

it's being extended to include B.C.'s post-secondary institutions.

What makes the program work? The science and engineering may be complicated, but the principle is quite simple: Partnership. The B.C. seismic schools program brings planners, engineers and government together to apply the best science, the best technology, and the best practices from around the world to the task of organizing our effort to make sure our children are as safe as they can be when an earthquake hits.

For example, APEGBC and UBC have developed assessment tools to determine how schools in different seismic zones will withstand different kinds of earthquakes. In addition, APEGBC has developed cutting-edge guidelines for engineers to follow when planning seismic upgrades to ensure the work is done to the best technical standard. And critical research data from around the world has been brought together in one place to assist in engineering assessments and designs.

The bottom line: because of the mitigation program, B.C. has a smart science-based approach to protect our children in an earthquake, allowing government to efficiently target resources where they're most needed.

Protecting B.C.'s schools from a significant earthquake is only one part of a much larger emergency preparedness plan. The Christchurch earthquake damaged more than 10,000 homes, destroyed 7,500 more, and resulted in the demolition of 1,400 buildings. The total loss: more than $30 billion, or ten per cent of New Zealand's GDP. That was in a city the size of Victoria. Imagine the economic impact if a similar sized earthquake hit Metro Vancouver.

To meet this challenge, APEGBC will recommend as part of the consultation process that the B.C. government apply the school seismic mitigation model to all public buildings and critical economic infrastructure. Adopting the application of common risk evaluation guidelines will allow all levels of government and the private sector to better organize and target limited resources. In addition, APEGBC recommends that the core operations of government be included in this evaluation. If an earthquake was to hit Lower Vancouver Island while the legislature was in session, for example, the damage to B.C.'s Parliament buildings could have severe consequences on the operation of government in an emergency.

A significant and damaging earthquake will hit B.C.'s south coast. How we plan for it and respond is up to us. In partnership with B.C.'s provincial government and leaders in the scientific community, B.C.'s engineers and geoscientists have helped B.C. lead the way protecting our children in their schools. Working together, we can use that experience to better protect us all.

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