



POLICY RECOMMENDATION 2015-4

DEVELOP CONTINGENCY PLANS TO MITIGATE THE POSSIBLE DETRIMENTAL EFFECTS OF A GREAT PACIFIC NORTHWEST EARTHQUAKE ON ALASKA

(ADOPTED 30 SEPTEMBER 2015)

There is consensus amongst Federal and western state agencies and general agreement within the scientific community that the next great devastating earthquake in North American may likely occur in the Pacific Northwest region, along the Cascadia subduction zone or on a shallow Puget Sound fault. While such an earthquake would not likely cause any physical damage to Alaska's infrastructure, or directly pose a safety hazard to Alaska's population, it would, however, have a significant effect on Alaska's economy given the importance of the Pacific Northwest region to Alaska's commerce, shipping, oil exports, fishing and tourism industries, and communications. Therefore, the Alaska Seismic Hazards Safety Commission recommends that the respective Alaska government agencies investigate potential impacts and develop contingency plans to prepare for and mitigate the possible detrimental effects of a great Pacific Northwest earthquake on Alaska.

This policy recommendation expands upon elements addressed in the Western States Seismic Policy Council^a (WSSPC) Policy Recommendation 12-2^[1].

DISCUSSION

While Alaska is the most seismically active state in the Union, accounting for more earthquakes than the other 49 states combined, not all of our vulnerability is the result of earthquakes originating in the state. Because of the Alaska's close economic and geographic ties with the Pacific Northwest, a great earthquake in that region could be expected to have significant economic and societal impacts in Alaska.

The Pacific Northwest coastal region between northern California and southern British Columbia lies along the Cascadia subduction zone, which recent research indicates is highly active and periodically generates great (> magnitude 8) earthquakes and accompanying tsunamis, similar to the 2011 Tōhoku earthquake in Japan or the 1964 Good Friday earthquake in Alaska. Additionally, recent studies have identified evidence of multiple active shallow crustal faults in the Puget Sound region capable of generating powerful earthquakes that would be highly destructive to the ports and cities in that area.

Although Alaska has significant economic ties with the Pacific Northwest region, the relative impacts of a large earthquake there on our economy has never been evaluated. The importance of this issue lies in the quantity of imports and exports vital to Alaska's economy that passes through the seaports and transportation infrastructure in the Pacific Northwest region. The damage and other effects of a Pacific Northwest earthquake on that region have been well

^a *The Alaska Division of Homeland Security & Emergency Management, Alaska Division of Geologic & Geophysical Survey, and the Alaska Seismic Hazards Safety Commission are members of WSSPC*

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described in numerous scenario impact and economic reports^{[2][3][4]}; however, those reports do not detail the far field secondary effects, such as potential impacts on Alaska's economy.

In light of these unknowns, and the general consensus amongst Federal and western state agencies and scientific community that the next great devastating earthquake in North America may occur in the Pacific Northwest, the Alaska Seismic Hazards safety Commission prepared the attached publication further summarizing the seismicity of the Pacific Northwest region, and the potential effects of a great earthquake in that area on Alaska.

REFERENCES

- ^[1] Western States Seismic Policy Council (WSSPC), Policy Recommendation 12-2, Developing Earthquake Risk-Reduction Strategies.
- ^[2] Cascadia Region Earthquake Workgroup. 2013. Cascadia Subduction Zone Earthquakes: A Magnitude 9.0 Earthquake Scenario. Washington Division of Geology and Earth Resources, *Information Circular 116*.
- ^[3] Insurance Bureau of Canada. 2013. Study of Impact and the Insurance and Economic Cost of a Major Earthquake in British Columbia and Ontario/Quebec.
- ^[4] U.S. Department of Homeland Security. 2011. Analysis Baseline Study for the Cascadia Earthquake and Tsunami. National Infrastructure Simulation and Analysis Center.

ATTACHMENT

Pacific Northwest Earthquakes and Potential Effects on Alaska. Alaska Division of Geological & Geophysical Surveys, *Miscellaneous Publication 148*, August 2012.