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Witnesses Stress Importance of Early Earthquake Warning Systems

Implementation would Save Lives, Mitigate Extensive Property Damage

WASHINGTON, D.C. – Today, the House Natural Resources Subcommittee on Energy and Mineral Resources held an oversight hearing entitled "Whole Lotta Shakin': An Examination of America's Earthquake Early Warning System Development and Implementation." This hearing examined the benefits of earthquake early warning systems worldwide and the status of the United States' earthquake early warning system's rollout and implementation.

"It's during the lag time between the reception of a signal and the impact of the seismic waves that allows early warning, giving anywhere from a few seconds to minutes for people to take cover, stop or slow trains, halt elevators, open firehouse doors, and other steps to prepare for the effects of sustained shaking. Even though the understanding of earthquake early warning has been around America has not implemented a large scale earthquake early warning system," said Subcommittee Chairman Doug Lamborn (CO-05). "I have had deep concerns for a number of years over the breadth of responsibility and lack of focus by the USGS. While this Administration has expanded many of the programs at USGS over the last few years, the lack of focus and investment in Earthquake Early Warning is a deep concern."

Witnesses at the hearing offered testimony on America's current early earthquake warning system and how America can learn from countries like Japan and Mexico that have implemented early warning systems that have proven effective in recent earthquakes.

John D. Schelling, MPA Interim Mitigation & Recovery Section Manager at the Washington Military Department's Emergency Management Division, highlighted the importance of earthquake early warning systems and how they have proven successful. "Earthquake early warning systems in Japan and similar systems around the world provide timely notification within a brief, but critical, window of opportunity to populations in an area that is projected to experience earthquake ground shaking." Schelling added that the "implementation of an earthquake early warning system along the West Coast can provide 3-5 minutes of lead time for coastal evacuation before the first earthquake waves even arrive. This window of time will give people precious minutes to drop, cover, and hold on, as well as a head start on evacuation. In a situation where seconds count, this is significant opportunity for improving life safety."

Douglas R. Toomey, Ph. D., Geophysics Professor at the University of Oregon, echoed Schelling's claim that an earthquake early warning system would give much needed time to

evacuate – saving lives. "An earthquake early warning system is well suited for the impending magnitude 9 earthquake on the Pacific Northwest Coast. This is because the post powerful earthquakes in the Pacific Northwest occur along a fault that lies primarily offshore, as opposed to directly beneath major metropolitan areas. Given the immense length of the fault, it if were to begin rupturing in the south – as research indicates, Portland would receive a warning as much as three minutes – and Seattle, as much as five minutes – prior to the earthquake hitting. Even in Eugene, Oregon, where I live, our schools, businesses, and hospitals could be warned as much as two minutes before the shaking starts.... Only a West Coast earthquake early warning system can provide advance warnings that will save lives, protect businesses, and facilitate a more rapid recovery for local communities, the federal government, and the economy as a whole."

Richard M. Allen, Ph. D., Director of the Berkley Seismological Laboratory at the University of California at Berkley, told the Subcommittee that the earthquake risk on America's west coast is "substantial, and too easily forgotten. A FEMA study estimates that more than 50% of the nation's earthquake risk is in California where there are large populations on many faults. There is a 99% probability of an earthquake with magnitude greater than 6.7 in the next 30 years." In response to the imminence of a major earthquake, Allen said that "we must remain vigilant and push forward with new and improved ways to reduce the risk. Earthquake early warning presents one such opportunity."

John McPartland, Member of the Board of Directors at San Francisco Bay Area Rapid Transit (BART), told the Subcommittee that earthquake early warning systems would not only save lives but protect the \$15 bullion BART system that is vital to the surrounding community. "While the Earthquake Safety Program is key to ensuring the integrity of the system, an earthquake early warning system would enable BART to slow and possibly stop trains before quaking begins thereby reducing possible derailments, and potential possible injuries." McPartland added that this will "ensure that it can return to operation shortly after a major earthquake."

Dr. William Leith, senior science advisor for Earthquake and Geological Hazards for the U.S. Geological Survey, agreed with the Subcommittee's other witnesses calling for an earthquake early warning system that will "will save lives and reduce injuries and property damage. It will make American businesses more resilient, will enhance national security by reducing panic and chaos, and will speed the economic recovery of areas hit by earthquakes. Earthquake early warning is a key step in building the nation's resilience to natural disasters."

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