

State of California  
Alfred E. Alquist Seismic Safety Commission

Memo

To: Commissioners  
Mr. Richard J. McCarthy, Executive Director

From: Robert Anderson, P.G., C.E.G.  
Seismic Safety Commission  
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Date: July 12, 2012

Subject: California Integrated Seismic Network (CISN) Update

Background:

Earthquakes are an ever-present hazard to the people and infrastructure of California. Rapid, real-time information about earthquakes affecting the State is provided by the California Integrated Seismic Network (CISN), a partnership of federal, state, and university agencies that operate earthquake sensors and produce rapid earthquake information products, such as locations, magnitudes and ShakeMaps. The CISN is dedicated to reducing earthquake losses by providing situational awareness to the emergency response community and earthquake data to planners, engineers and scientists. CISN covers California as one region of the USGS Advanced National Seismic System. Cal EMA is a CISN partner and provides funding for CISN operations from the State of California.

Since 2006, a team CISN of scientists and programmers has been developing an Earthquake Early Warning (EEW) system called ShakeAlert that uses data from CISN sensors. This technology detects and characterizes earthquakes so quickly that an alert be sent before the most destructive waves reach locations outside the epicentral area. Under the right circumstances the system could give more than 1 minute warning. This project is a collaboration of Caltech, UC Berkeley, ETH Zurich, USC/SCEC and the USGS. It is funded by the USGS and, beginning this year, by the Gordon and Betty Moore Foundation. Several countries including Japan, Mexico, Taiwan, Italy, and Turkey have built EEW systems to protect their citizens.

A working demonstration of ShakeAlert became operational in January, 2012 that delivers EEW alerts via a computer pop-up display. This test system has been made available to scientists and selected users in government,

transportation, utilities and industry. This project has demonstrated the feasibility of EEW in California, however, additional investment in sensors, communications infrastructure, software development and operations personnel will be required to create a robust, state-wide public system.

**Recommendation:** This is an informational item only. Commissioners are invited to ask questions.