

## Earthquake Warning California For Telecommunications

### Don't Get Caught Off Guard

Earthquakes can happen in California at any time. Telecommunication providers should be appropriately prepared to react and respond quickly when an earthquake occurs, including using earthquake warnings as part of their preparedness efforts.

The California Governor's Office of Emergency Services (Cal OES) invites the telecommunications sector to learn about important resources that can help them to prepare and respond when an earthquake happens. This fact sheet outlines some of the resources available through "Earthquake Warning California," California's statewide earthquake warning system, and how they can be applied in telecommunications settings as part of a comprehensive emergency plan.

This document is meant to supplement existing emergency preparedness procedures and help all Californians to learn about available earthquake warning tools and resources to help ensure their safety. Telecommunication personnel should review earthquake preparedness plans specific to their facility and equipment for full information on what to do in an emergency situation.

### Earthquake Warning California

Scientists are still unable to predict earthquakes, but thanks to new technology, individuals and organizations can potentially receive a few seconds notice to take appropriate safety precautions before an earthquake strikes. Earthquake Warning California is the first statewide earthquake warning system in the nation, and includes tools such as:

- **Wireless Emergency Alerts (WEAs)** that deliver no-cost text messages for emergency situations for earthquakes magnitude 5.0 and higher;
- **MyShake App**, a free smartphone application that provides users with an audio and visual warning for earthquakes magnitude 4.5 and higher; and
- **Android Alerts** that use the same ground sensor technology as the MyShake App and are automatically included in Android phones with updated operating systems.

Earthquake Warning California uses technology to detect earthquakes that have already started and ground motion sensors to estimate the earthquake size, location, and impact. When the estimate predicts a strong enough magnitude, the Earthquake Warning California quickly issues a warning through its various communication channels

(MyShake App, etc.) to warn mobile device users nearby that shaking is about to occur. When users receive a warning, they should immediately take steps to protect themselves, such as to drop to the ground, cover their heads with their arms, and hold onto their necks with both hands until shaking stops.

## **Benefits and Applications**

Earthquake warning systems can enable telecommunication facilities to take protective actions as soon as possible, ideally before shaking begins or becomes too intense for effective response. Once an earthquake is detected and analyzed in real time to exceed an expected intensity threshold, a warning message is delivered via smartphone or other telecommunications technology to users in locations that might be affected. The earthquake warning allows individuals to drop, cover, and hold on and reduce injuries and prevent fatalities.

### Earthquake Warning California Benefits

- Avoid injuries and death
- Allow individuals to take protective actions to remain safe. For example, 1 million people in areas receiving a 6.5 or greater earthquake that receive a ten second earthquake warning would provide a one-time benefit of \$109 million from injury avoidance

### Earthquake Warning California Costs

- Installation and integration of autonomous warning systems into existing communication systems
- IT support to develop and maintain automatic systems
- Maintenance and system testing
- Equipment or safety training for employees on an annual basis
- Equipment depreciation and replacement costs over time

## **Getting Prepared**

Telecommunications are an essential part of rapidly deploying assistance following an emergency. Emergency response services such as police officers, fire fighters, and ambulatory services rely heavily on telecommunications to protect and save lives. Below are five tips that can aid telecommunications providers in the preparation process:

- 1. Understand Local Hazard Vulnerability.** Assess the community's vulnerability to hazards and prioritize preparedness measures for specific areas. Be sure to assess

infrastructure at risk, such as inundated call channels, telephone lines, and satellite communication infrastructure.

- 2. Community Preparedness Roles.** Coordinate support with other telecommunication partners to ensure ongoing connectivity and tactical capabilities, such as satellite, radio, high frequency, data, and cellular capabilities in the event of an emergency. Work with emergency personnel to establish lines of communication in the event of a system overload, such as the use of pagers, two-way radios, and other tools. Ensure all instructions for system users are in layman's terms so they are easy to follow.
- 3. Download or Enable Earthquake Warning California Resources.** The MyShake App, Android Alerts, and WEAs can supplement existing warning systems and give employees time to take cover before shaking starts. Demonstrate to employees what an earthquake warning sounds and looks like. Employees should take steps to ensure earthquake warnings can be activated and heard in an emergency situation, such as ensuring their phone location settings are set to "always on." Warnings do not override silent and "Do Not Disturb" settings. Telecommunications should evaluate which functions of their operations can be automatically enabled in advance of an earthquake and which can be quickly be done by employees while still keeping them safe.
- 4. Include Earthquake Warnings in Telecommunications Emergency Plans.** Determine what actions can be taken by employees with a few moments notice of an earthquake. This may include putting equipment into safety mode or reprovisioning connections to avoid data loss. Determine whether capabilities are available to automatically implement emergency protocols when a warning is issued.
- 5. Educate the Public.** In major catastrophes, telecommunications channels can easily be overwhelmed as family and friends make efforts to check in on loved ones and calls for help go out to emergency lines. Consider providing public education materials on the use of communication channels in an earthquake to help lines stay open for emergency response. Identify individuals that may be at risk in the event of a downed power line or other infrastructure failure, and work with the community to reinforce existing structures and educate them on actions to take to stay safe when an earthquake warning is issued.

### **For More Information**

Earthquake Warning California is a comprehensive program of earthquake warning services managed by the California Governor's Office of Emergency Services (Cal OES).

The goal of the program is to provide individuals, organizations, and communities with direct and easily accessible emergency preparedness information and resources to keep individuals and families safe in an emergency situation. Visit the Earthquake Warning California website for the latest tools, news, information, and resources: [www.earthquake.ca.gov](http://www.earthquake.ca.gov).

For information, questions, or comments relating to this fact sheet, email Cal OES at: [earthquakeinfo@caloes.ca.gov](mailto:earthquakeinfo@caloes.ca.gov)