

## **WESTERN STATES SEISMIC POLICY COUNCIL POLICY RECOMMENDATIONS 10-1 and 10-2**

### **Rapid Tsunami Identification and Evacuation Notification**

#### **Policy Recommendation 10-1**

WSSPC recommends that each coastal state, province, and territory emergency management agency promote the development of tsunami evacuation and re-entry notification systems, supplemented with an education campaign, that ensures all populated coastal areas in the WSSPC coastal states, territories and provinces are guided by at least one type of system, appropriate to local conditions.

#### **Policy Recommendation 10-2**

WSSPC recommends the implementation of modern technological systems that rapidly identify the tsunami potential generated from a local earthquake and that immediately alert locally responsible emergency operations personnel about coastal areas likely to be affected by a tsunami. Information provided by these systems would augment public education programs regarding local tsunamis, including instructions to evacuate based on ground shaking.

#### **Background**

Tsunamis have caused considerable damage and casualties to populated areas in the Pacific region over the last 100 years. Tsunamis usually are created by the rapid uplift of the sea floor during subduction zone earthquakes and locally by landslides triggered by the shaking. Tsunamis not only affect nearby coastlines within a few minutes following an earthquake, but they can travel long distances and impact distant shorelines within several hours.

Where nearby coastlines are affected, the public is instructed to move away from the shoreline and to high ground whenever strong or long ground shaking is felt, or in some cases, when any ground shaking is felt. People would only return to low lying coastal areas following receipt of an official all clear message. Whether the tsunami is generated from a distant source or from a local source, effective notification of the public is paramount.

Permanent residents and visitors occupy a variety of geographical locations and structures along the shoreline. Therefore, the use of redundant warning systems (such as radio broadcasts and outdoor sirens on beaches) would increase the immediacy and the coverage of the evacuation notification. Only with multiple systems can the best and most immediate coverage be obtained, thereby potentially minimizing the number of injuries and loss of life from the tsunami.

In some instances, ground shaking may be a precursor, and an “early warning”, to the occurrence of a tsunami. People in all coastal communities should be prepared to evacuate for higher ground when they feel strong or long duration ground shaking. Because many earthquakes do not cause tsunamis, a tsunami warning system should also be able to determine as quickly as possible if evacuation activities are necessary. Unnecessary evacuations are costly not only in terms of human risk and lost commerce, but in the public's negative reaction to the next earthquake experienced on the coast. The warning system should include: 1) earthquake and tsunami detection by a modern seismic network and Tsunami Warning Centers, respectively; 2) tsunami warning transmissions from the Tsunami Warning Centers to state and local emergency operations personnel; and, 3) direct notification to the coastal inhabitants, through the use of broadcast media, as well as other locally appropriate measures (such as sirens, reverse 911, phone tree, etc.) to initiate emergency response plans.

Continued education is crucial to inform coastal residents and visitors of procedures to evacuate coastal areas upon feeling strong or long ground shaking and not wait for official notices.

### **Facilitation and Communication**

1. Encourage representatives from state agencies and state lobbyists to use Policy Recommendation 10-1 in efforts with their legislative delegations to develop rapid, multiple tsunami education and notification systems in their respective states, territories and provinces. This includes promoting tsunami task forces or similar groups, soliciting local government support, and requesting funds. In addition, education and evacuation planning are critical components of overall tsunami risk reduction and, therefore, should be promoted along with tsunami notification systems.

2. Forward Policy Recommendation 10-2 to the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration, United States Geological Survey, and other organizations as appropriate, for their budget and technical support.

## **Assessment**

The assessment of these policies can be measured by: 1) the adoption of tsunami hazard policies by state, territorial and provincial, as well as local governments on tsunami warning dissemination and evacuation; 2) comprehensiveness of notification systems adopted by state, territorial, provincial and local jurisdictions; 3) implementation of Public Law 109-424 that requires improvement in tsunami detection, forecasting, warning, notification, outreach, and mitigation in tsunami communities; 4) communities being designated by NOAA/National Weather Service as a TsunamiReady™ Community; and 5) number of public education workshops and surveys completed in at-risk tsunami communities.

## **History**

Policy Recommendations 10-1 and 10-2 were first adopted as Policy Recommendations 01-1 and 01-2 by unanimous vote of the WSSPC members at the Annual Business Meeting October 24, 2001. PR 01-1 was revised and adopted as PR 04-1 by unanimous vote of the WSSPC membership at the Annual Business meeting September 30, 2004. PR 01-2 was re-adopted as PR 04-2 by unanimous vote of the WSSPC membership at the Annual Business meeting September 30, 2004. The Assessment section was revised and Policy Recommendations 04-1 and 04-2 were re-adopted as PR 07-1 and PR 07-2 by unanimous vote of the WSSPC membership at the Annual Business Meeting October 3, 2007. PR 07-1 and PR 07-2 were revised and re-adopted as PR 10-1 and 10-2 by unanimous vote of the WSSPC membership at the Annual Business Meeting July 9, 2010.