

Building Regional Resilience

An Earthquake Readiness Workshop, co-sponsored by the SAME Portland, Mount Tacoma and Seattle Posts, hopes to be an inspiration for the public and private sectors to come together, build partnerships and increase the nation's infrastructure resilience.

By Capt. Matt Cutts, P.E., M.SAME, USCG (Ret.), Daniela Todesco, P.E., M.SAME, and Yumei Wang, P.E., M.SAME, F.ASCE

Extreme natural events including Hurricane Katrina in 2005, the Tohoku earthquake and tsunami in 2011, and Hurricane Sandy in 2012 were among the most devastating and expensive natural disasters in history. The topics of emergency preparedness and infrastructure resilience have reached the forefront of the global consciousness and caused rethinking of national security priorities.

To save lives, reduce economic losses and quicken recovery to meet basic societal needs, it is necessary to adopt performance-based critical infrastructure targets and improve engineering practices to embrace resilience engineering. As former Coast Guard Commandant Adm. Thad Allen said, "Resilience is the immune system of our nation."



Goal 1 of the *SAME Strategic Plan* is to "Support emergency preparedness, response, recovery and infrastructure resilience consistent with the risk management framework of the National Preparedness System and the National Infrastructure Protection Plan using The Infrastructure Security Partnership (TISP) as a resource to assist Posts in implementing this goal."

In line with this, the SAME Portland Post has provided partners and the public with information on emergency preparedness, the Incident Command System, Continuity of Operations, and infrastructure resilience.

READINESS AND RISKS

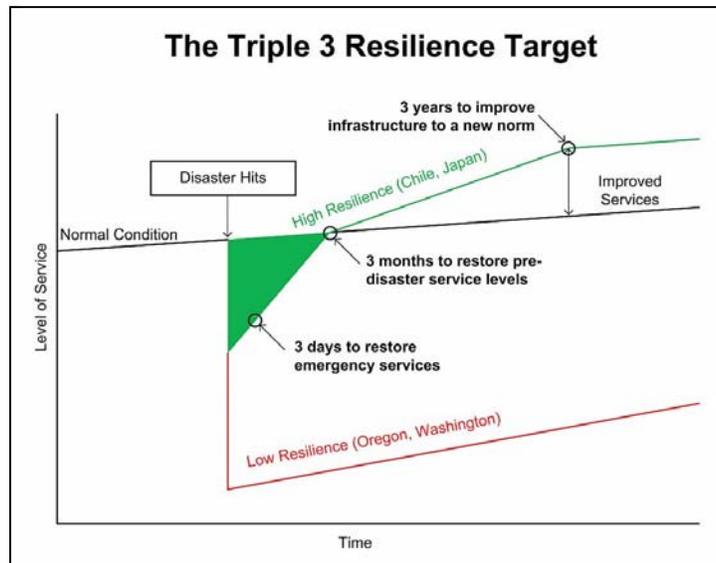
For the past three years, the Portland Post has held annual readiness workshops with speakers from the U.S. Department of Homeland Security, the U.S. Army Corps of Engineers, the Oregon Office of Emergency Management, Oregon Continuity Planners Association, and the Portland Bureau of Emergency Management. These events led to a one-day Earthquake Readiness Workshop in Centralia, Wash., which was co-sponsored by the Portland, as well as the SAME Mount Tacoma and Seattle Posts, the Cascadia Region Earthquake Workgroup, and the Washington State Centers of Excellence. The workshop gathered engineers, emergency managers, public officials and interested citizens from across the Pacific Northwest to assess current readiness for a Cascadia Subduction Zone earthquake and tsunami, and develop public-private partnerships to increase regional resilience.

While California experiences both small and large earthquakes, many Pacific Northwest residents are unaware of the high risks they face due to the Cascadia Subduction Zone. Earthquakes can strike with no warning, tsunamis can inundate low lying coastal lands, and regional subsidence can cause long-term flooding. The 2013 Cascadia Region Earthquake Workgroup scenario predicts that the impending Magnitude 9 Cascadia Subduction Zone earthquake and tsunami will impact millions of people and cause infrastructure damage in the tens of billions of dollars.

A front-page article in the *Oregonian* in 2013 focused entirely on Oregon’s critical energy infrastructure hub on the Willamette River, which is considered to be a catastrophic risk when a megaquake hits, since most of the state’s fuel supply is stored in tanks built on liquefiable soils. The same year, the Oregon Seismic Safety Policy Advisory Commission released the “Oregon Resilience Plan: Reducing Risk and Improving Recovery for the Next Cascadia Earthquake and Tsunami,” developed at the direction of the Oregon Legislature immediately after the 2011 Tohoku Japan earthquake and tsunami disaster. This plan documented expectations of severe critical infrastructure damage with lengthy service outages on the order of 18 months, and estimated fatalities ranging from 1,250 to more than 10,000. The State of Washington released a similar document in 2012 called “Resilient Washington State.”

TRIPLE 3 RESILIENCE TARGET

With support and encouragement from TISP, the Bay Area Center for Regional Disaster Resilience, and others in the SAME professional network, the Portland Post initiated the Earthquake Readiness Workshop by reaching out to other Posts in the Cascadia Subduction Zone. This was followed by engagement with contacts at Oregon State University, Centralia College, the Oregon Department of Geology and Mineral Industries, and all the organizations that participated in previous readiness workshops. For 11 months, public and private partners worked to organize a full day of presentations and interactive breakout sessions with speakers including the Federal Emergency Management Agency Region 10 Federal Preparedness Coordinator & Director, and the directors from both the Oregon Office of Emergency Management and the Washington Emergency Management Division.



The Earthquake Readiness Workshop introduced participants to the Triple 3 Resilience Target, which was developed in an effort to provide different tiers of services after a catastrophic emergency: three-day recovery for emergency services; three-week recovery to restore basic utility services; and three-year recovery and upgrades to achieve improved critical infrastructure systems.

Each region of the United States is subject to different natural and man-made hazards. SAME Posts are uniquely positioned to leverage their local knowledge, and bring public and private organizations together to support emergency preparedness, response, recovery and infrastructure resilience.



FOCUS GROUP OUTCOMES

Three focus groups during the workshop discussed the Triple 3 Resilience Target as it relates to ports and waterways, critical energy infrastructure and emergency management. Participants stressed the need to build regional resilience through strong public-private partnerships and to increase public awareness of emergency preparedness needed for all natural and man-made emergencies, especially Cascadia Subduction Zone earthquakes. While each focus group examined specific items related to their particular area of expertise, all three identified a lack of communication between business and government organizations as a major barrier to building regional resilience partnerships. They all indicated the need to bridge gaps through substantive discussions at the executive level to address infrastructure resilience shortfalls.

The Ports & Waterways Group addressed the fact that dredged channel banks are subject to failure due to



earthquakes, that many port facilities are built on liquefiable soils, and that even if vessels are able to reach ports, the intermodal nature of shipping will likely prevent deliveries to consumers for an extended period of time.

The Critical Energy Infrastructure Group covered issues associated with the Oregon Critical Energy Infrastructure Hub, including the fact that most of Oregon's liquid fuel is delivered from Washington and could be unavailable after a Cascadia earthquake. The group also discussed the redundant nature of some portions of the electric grid in contrast to natural gas pipelines, which rarely have alternate routing availability.

The Emergency Management Focus Group discussed the need to have three weeks of food, water and supplies on hand. The group also reflected on the inability of many citizens to deal with the lack of banking, health care, water and wastewater treatment, liquid fuel, internet, cell phone and other communications.

BUILDING PARTNERSHIPS

The June 2014 Earthquake Readiness Workshop provides a successful example of the public and private sectors working together to better leverage assets and optimize resources as the government explores innovative financing methods—including public-private partnerships and privatization to get projects funded and programs sustained. Attendees left with concrete ideas on expanding their own professional networks to build regional resilience, and how to plan and execute events to strengthen cross-jurisdiction and public-private partnerships that lead to improved disaster mitigation, preparedness, response and recovery.

SAME Portland Post members continue to engage partners at colleges, conferences and other events. Plans are underway to hold a follow-on Earthquake Readiness Workshop in 2015. In addition, SAME members nationwide are participating in TISP's Public-Private Collaboration Committee to provide information to Posts on how they can form public-private partnerships to address hazards specific to their region. TISP supports these efforts by hosting regional workshops throughout the country and promoting recommendations from their Public-Private Collaboration Committee.

Critical infrastructure and key assets and resources are vulnerable to a variety of natural and man-made threats—and the risks only seem to be increasing. Because approximately 85 percent of critical infrastructure is privately owned, it is vital that the public and private sectors work together to protect these assets. Readiness Workshops sponsored by SAME Posts in every region will build partnerships and result in significantly increased preparedness and resilience of our nation.

Capt. Matt Cutts, P.E., M.SAME, USCG (Ret.), is Critical Infrastructure Program Manager, USACE Portland District; 503-808-4697, or matthew.e.cutts@usace.army.mil .

Daniela Todesco, P.E., M.SAME, is Senior Engineer, WEST Consultants Inc.; 503-946-8536, or dtodesco@westconsultants.com .

Yumei Wang, P.E., M.SAME, F.ASCE, is Principal, Sustainable Living Solutions LLC; yumei.wang@comcast.net .

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