

MR. JIM MULLEN

**Director, Washington Military Department
Emergency Management Division**

STATEMENT FOR THE RECORD

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Government Reform Committee**

**Subcommittee on National Security, Homeland Defense,
and Foreign Operations**

Tsunami Warning, Preparedness, and Interagency Coordination: Lessons Learned

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**Washington State Emergency Management Division
Building 20; MS: TA-20
Camp Murray, Washington 98430
(Ph): 253-512-7001**

Introduction

Thank you Chairman Chaffetz, Ranking Member Tierney, and distinguished members of the Subcommittee for convening this hearing and allowing me the opportunity to submit this statement for the record related to tsunami warning, preparedness, and the interagency cooperation following the Japanese earthquake and subsequent tsunami on March 10-11, 2011.

The tragic events that occurred on March 10th in Japan illustrate the need to remain focused on the local earthquake and tsunami threats facing our nation. The events that we witnessed across the Pacific are almost identical to the events we expect to see off our coast during a magnitude 9.0 Cascadia Subduction Zone earthquake & tsunami. On March 11th we were reminded that multiple Pacific Rim countries' fates are inextricably linked when an earthquake in Japan can trigger tsunami waves that reach the west coast of the United States killing two people and causing tens of millions of dollars worth of property damage and millions more in economic impacts.

Other witnesses may also highlight the continued need for the reauthorization of the Tsunami Warning and Education Act (TWEA), but I would like to provide you with my perspective on how this important Act has markedly improved tsunami warnings for our nation, explain why state and local tsunami public education is needed, and briefly discuss some early lessons learned from this incident.

Tsunami Warning

On March 10, 2011, Washington State Emergency Management Division's Duty Officers received notification around 11:22 p.m. from the West Coast and Alaska Tsunami Warning Center that Washington State would be placed under a Tsunami Watch, which indicated some action may be necessary as data collection and analysis continued. EMD's Duty Officers immediately began notifying coastal counties and tribes of the impending tsunami providing responders as much time as possible for preparation and action. The State Emergency Operations Center (EOC) was activated to Phase II at 11:30 p.m. to support local jurisdictions, tribes, and to coordinate state agency resources in support life safety priorities.

Around 12:47 a.m. on March 11, 2011 the Tsunami Watch was upgraded to a Tsunami Advisory, and being at a Phase II enabled us to immediately ramp up to effectively coordinate and support local jurisdictions and tribes as well as respond to media inquiries. This increased level of alert meant local jurisdictions would be closing beaches, evacuating ports and harbors, and the State EOC was coordinating with State Agencies to provide any necessary assistance to protect the public. Washington could have been included in the Tsunami Warning that was issued for Oregon and California. We were fortunate in this incident that unlike Hawaii and our neighbors to the south, we did not experience any damage as the waves hit our shore.

Throughout the entire event, we were in constant contact with the West Coast and Alaska Tsunami Warning Center. We applaud the accuracy of the Center's forecast of the tsunami waves' arrival times and projected wave heights. Receiving timely and accurate information was critical to providing a good response, at federal, state and local levels.

We conducted hourly conference calls with local emergency management offices in order to relay information from the Tsunami Warning Center and coordinate response activities between all levels of government. Decisions on whether to use sirens, closing roads, and designating evacuation locations are all examples of response actions that might have been undertaken needlessly had the information from the Center not been available.

During the event, some areas of Grays Harbor County met the Tsunami Warning level criteria. Impressive communication and coordination between the Tsunami Warning Center, the State EOC, and Grays Harbor Emergency Management enabled us to continue monitoring yet decide that the risks to the public did not warrant a coastal evacuation. A full-scale evacuation could have resulted in wasted public resources and put lives at peril as evacuations in the middle of the night can be dangerous.

There were lessons to be learned, however. The West Coast and Alaska Tsunami Warning Center experienced significant problems with their website which served as the primary source for updated tidal information. Also the warning center staff inadvertently issued an erroneous message indicating a downgraded threat level at the height of the event. While the initial feedback has been extremely positive from our local and tribal partners, a formal After Action Review of our response to this incident will be conducted to ensure we are doing everything possible to protect our coastal residents.

Tsunami Preparedness

I suspect many of you are wondering "How prepared is Washington State to deal with this type of disaster?" While we have made substantial progress and are much better prepared today than we were in 2004 during the Indonesian Tsunami, there is still much more work to be done. Japan represents a country which dedicates substantial resources to tsunami preparedness yet current figures confirm 13,000 of their citizens perished in this incident. This demonstrates a need to refocus the interest that occurred during the last major earthquakes and tsunamis in Chile during February 2010, American Samoa in 2009, and Indonesia in 2004.

Fortunately, because of the resources provided by the National Tsunami Hazard Mitigation Program (NTHMP), which is authorized by TWEA, Washington State Emergency Management Division has been able to put programs in place dedicated to assist our state, our local communities, and our tribes become better prepared to deal with these no-notice events. After all, data from warning centers exists to move the public out of harm's way. Without professional education of dedicated state, tribal, and local emergency management practitioners and general public education on what to do when the ground begins to shake, we cannot ensure public safety.

EMD's Earthquake/Tsunami Program is a state-level natural hazards risk reduction program, bringing together federal, state and local and tribal partners to promote response planning, preparedness activities, public education and outreach, as well as mitigation related activities within Washington's communities.

In Washington we are committed to seeking creative and innovative solutions that make the most of scarce resources. Our efforts have recently been recognized by the Western States Seismic Policy Council with an Award in Excellence. Through our Tsunami Public Education Instructor: Train-the-Trainer program, we have created local community based champions for earthquake and tsunami preparedness. This also provides additional support for local emergency managers to conduct public education – a critical component of community & personal preparedness. Of utmost importance for states with local tsunami hazards, like Washington, is getting people to recognize a need to self-evacuate immediately when ground shaking occurs. No technical warning system can provide the time needed for folks to move to high ground when local events are near shore. We must rely on an educated public to respond quickly and appropriately to preserve life.

Tourists and visitors to our coast are largely unfamiliar with earthquakes and tsunamis. Our Disaster Preparedness Training for the Hospitality Industry program educates hotel staff on these hazards. That 18-year old working behind the front desk on their summer job is our first responder in these times of crisis. That hotel or motel staff member needs to know what to do during an earthquake and tsunami so that visitors can be directed to safety.

Map Your Neighborhood (MYN) is a program that was developed by WA EMD and brings neighbors together to plan and prepare for disasters using an organized process. It teaches people how to become self-reliant post disaster for a period of time until help can arrive. Currently there are 29 Washington counties, 80 cities, 30 states, and one international country that have implemented MYN. Right now, families are struggling financially, but this should not prevent them from getting life saving information during events like we experienced this past month. We have been fortunate to receive funding through the NTHMP to provide individuals and families that meet income requirements with a free NOAA weather radio. After completion of some basic tsunami preparedness training, participants are given a NOAA weather radio giving them the opportunity to receive for the first time tsunami alerts and warnings.

WA EMD, through support from Governor Gregoire, Senator Cantwell, and the NTHMP has developed and deployed the All-Hazards Alert Broadcast (AHAB) Siren System to warn individuals within siren range of an approaching tsunami. To date, we have 50 sirens located along our Washington outer coast, Strait of Juan de Fuca, and Puget Sound. We test this system on a daily basis to determine operational status in order to troubleshoot and make needed repairs. We also audibly test the sirens on the first Monday of each month in order to make sure everything is fully operational. Washington State and its contractor, Federal Signal developed this state-of-the-art technology and it has become the de facto standard for tsunami warning sirens.

Our outer coastal communities are at risk from tsunami inundation and in many cases have no access to natural high ground. The only solution in these areas, like the Long Beach Peninsula,

Ocean Shores, Westport, is vertical evacuation. This new evacuation strategy means providing artificial high ground through the use of towers, berms or buildings specifically engineered to withstand the tremendous forces from a Magnitude 9.0 earthquake and 30-foot tsunami waves. We commend the joint efforts of FEMA and NOAA for authoring engineering guidance on this new approach. Project Safe Haven is a program specifically designed to incorporate local feedback on developing community accepted solutions for tsunami evacuation where natural high ground is minimal or non-existent. Washington State is leading the way nationally and internationally on this new evacuation strategy. Funding sources must be identified in order for these innovative designs for saving lives can be implemented.

Interagency Coordination

The coordination required for tsunami warnings, preparedness efforts, and mitigation strategies cut across all levels of government and when implemented properly, like they were on March 10-11, 2011, allow us to ensure public safety in our local communities. We have made tremendous progress over the past seven years as a state and as a nation when it comes to preparing for the inevitable subduction zone events that threaten both our national and economic security.

However, at this moment coastal states are caught in the middle of a federal dispute over which agency has responsibility for tsunami hazard mitigation, FEMA or NOAA. Both agencies point towards the other when it comes to implementation of tsunami mitigation efforts, like vertical evacuation, and other initiatives. The events in Japan help us realize that we cannot afford to waste additional time arguing jurisdictional issues when innovative solutions exist that could save lives. FEMA and NOAA need to join forces and provide the leadership that ensures our citizens have life saving options when tsunamis come ashore.

There has been much discussion within the tsunami community over the past few years of creating a third warning center for the Caribbean area since a local subduction zone hazard has been identified. Washington State does not support this notion, recognizing that the existing warning centers currently provide this service and warning centers provide no increased warning time for locally generated tsunamis. If this rationale were applied across the United States, Washington, Oregon, and California would all need individual warning centers.

In 2011, the National Research Council of The National Academies issued a report entitled "*Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts.*" This report clearly highlights the technological and coordination challenges facing the existing NOAA Tsunami Warning Centers. We strongly recommend that neither Congress nor NOAA approve creation of additional warning centers, but instead direct current resources towards improving warning capability through information technology system upgrades in existing centers.

The Tsunami Warning and Education Act, which authorizes the Tsunami Warning Centers, the off-shore buoys, and the National Tsunami Hazard Mitigation Program (NTHMP) is set to expire in September 2012. We respectfully call on Congress to reauthorize this vitally important Public Law; with minor modifications as to date it has served us well.

The NTHMP epitomizes a program which relies upon federal and state partners working together for the common cause of protecting our coastal communities at risk from damaging tsunamis. Funding for the NTHMP is 27% of the overall NOAA Tsunami Program, but the intent of this funding was to provide resources directly to states for “community based” efforts. Over the years this funding has been stretched to support not only states’ efforts, but the overall NOAA Tsunami Program. The reauthorization of TWEA should direct resources to non-federal members of the NTHMP federal-state partnership only.

Conclusion

As you can see, we take these threats to our state, our citizens, our economy and our environment seriously. With the continued support of Congress, it will be possible to provide federal, state, and local communities with the tools necessary to manage these no-notice threats in order to protect lives and property. As you continue to explore these issues, please feel free to utilize Washington State’s expertise gained through years of exercises and real events.

Thank you for the opportunity to submit this written testimony.