

PNWS AWWA

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Resilient Washington State

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Overview

- Introduction
- Earthquake Hazard
- Existing and Desired Performance
- Washington compared to Oregon
- Recommendations
- Progress to Date
- Questions

Organizational Structure

Governor

The Adjutant General (TAG)

Washington State Emergency Management Council (EMC)

State Seismic Safety Committee (SSC)

Resilient Washington State Subcommittee (RWS)
Stacy Bartoletti – Degenkolb Engineers, RWS Chair Dave Norman – SSC Co-Chair, DNR Tamra Biasco – FEMA
John Schelling – EMD Tim Walsh – DNR Kyra Nourse – Lead Editor Scott Miles – WWU

Utilities
Sector Group

Housing &
Economic
Development
Sector Group

Transportation
Sector Group

Critical
Services
Sector Group

Sector Components:
Domestic water supply
Wastewater systems
Food control
Electricity
Fuel
Information & communication technology

Sector Components:
Finance and banking
Commerce (commercial facilities)
Real estate and construction
Manufacturing (industrial facilities)
Planning and community development
Housing

Sector Components:
Roads and bridges
Airports
Ports and navigable water ways
Rail
Mass transit

Sector Components:
Law enforcement
Emergency response
Health and medical care
Education
Mass care and social services
Food network
Government administration

Process and Timing

- 2009 – RWS Committee Formed
- 2010 – RWS Committee Developed Framework Based on SPUR
- 9/17/2010 – Stakeholder Workshop to form Sector Groups
- 12/2/2011 – Workshop 2
- 2012 – Draft and Final Report

Purpose and Timeframe

- *Purpose* - Provide a framework for improving Washington's resilience when earthquakes occur. Framework includes more effective seismic mitigation policies and recommendations for legislation and policy changes to improve and enhance statewide seismic safety.
- *Timeframe* – Goal of making the state resilient in 50 years.

Definition of Resilient State

A resilient state is one that maintains services and livelihoods after an earthquake. In the event that services and livelihoods are disrupted, recovery occurs rapidly, with minimal social disruption, and results in a new and better condition.

Earthquake Hazard

- Not possible to use single scenario
- M7.2 Seattle Fault, M7.4 Southern Whidbey Island Fault, M7.1 Tacoma Fault, M7.3 Saddle Mountain Fault, M6.8 Cle Elum Fault, and M9.0 Cascadia.
- Scenarios define geographic area of impact.
- Consider Ground Motions consistent with USGS 10/50 PGA maps.

Washington Utility Sector

TARGET STATES OF RECOVERY: WASHINGTON'S UTILITIES SECTOR									
	Event occurs	0-24 hours	1-3 days	3-7 days	1 week-1 month	1 month-3 months	3 months-1 year	1 year-3 years	3+ years
Domestic water supply									
<i>Supply & transmission pipes</i>				NL			L		
<i>Distribution pipes</i>					NL		L		
Wastewater systems									
<i>Treatment facilities</i>						NL	L		
<i>Sewer pipes</i>						NL		L	
Flood control									
<i>Dams</i>						x			
<i>Levees</i>								x	
Electricity									
<i>Transmission</i>								x	
<i>Distribution, 60% restored</i>					x				
<i>Distribution, 70% restored</i>						x			
<i>Distribution, greater than 70% restored</i>							x		
Natural Gas									
<i>Transmission</i>			NL		L				
<i>Distribution, 40% restored</i>					x				
<i>Distribution, 90% restored</i>						x			
Petroleum									
<i>Refineries & transmission</i>								x	
<i>Distribution</i>						x			
Information and communication technology						x			

Washington Compared to Oregon

	Event occurs	0-24 hours	1-3 days	3-7 days	1-2 weeks	2 weeks-1 month	1 month-3 months	3 month-6 months	6 months-1 year	1 year-3 years	3+ years
Washington											
<i>Supply/ transmission</i>				NL					L		
<i>Distribution pipes</i>					NL				L		
Oregon (Valley)											
<i>Potable Water at Supply</i>	25	50		90				X			
<i>Transmission/ Backbone</i>	90						X				
<i>Supply to Critical Facilities</i>	50	90					X				
<i>Fire suppression – key points</i>	90			X							
<i>Water at hydrants</i>				25	50	90			X		
<i>Community distribution</i>			50	90	X						
<i>Distribution operation</i>			25	50	90				X		

Preliminary Recommendations

- Utility Systems: Require statewide risk assessment and mitigation plans.
 - Maintain a statewide utility group for coordination and direction.
 - Develop and adopt model state wide codes for desired performance standards.
 - Develop and adopt a standard for priority of service restoration.

Progress to Date

- Presented to the Emergency Management Council, Washington Military Department and Governor
- Local jurisdictions using RWS to facilitate earthquake recovery planning and to conduct similar self assessment
- RWS collaboration to for Lifeline Council initiated
- WASHDOT working on “lifeline corridor” to reprioritize seismic retrofit program
- Superintendent of Public Instruction completing hazard mitigation plan and seismic evaluations in pilot districts
- Two tsunami vertical evacuation projects are pursuing funding

Questions ?

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