



OREGON SEISMIC SAFETY POLICY ADVISORY COMMISSION (OSSPAC)

July 12, 2022

Broadcasting from the Hatfield Marine Science Center in Newport, July

OSSPAC Members Present:

Tiffany Brown, Chair
Trent Nagele, Vice Chair
Lesley Ogden
Bonnie Magura
Adam Pushkas
Katie Young
Elizabeth Safran
Christina LeClerc
Meg Reed
Jonathan Allan
Aeron Teverbaugh
Althea Rizzo

Local Government Stakeholder
Structural Engineer Stakeholder
First Responder Stakeholder
Schools Stakeholder
Building Owners Stakeholder
Public Member
Public Member
State agency: ODOT
Department of Land Conservation and Development
DOGAMI
State Agency: DCBS
Office of Emergency Management

OSSPAC Members Absent:

Matt Crall
Carolina Gomez
Susan Romanski
Joe Karney
Ed MacMullan
David Gomberg

Department of Land Conservation and Development
Multifamily Housing Stakeholder
Public Member
Utilities Stakeholder
Banking Stakeholder
Representative Legislative Assembly

Others in Attendance:

Jenny Demaris *Presenter/Lincoln County EM*
James Bela *Citizen*
Scott Smith *DEQ*
Debra Wixom *Administrator Partner*
Senator Anderson *Legislature*
Betsy Emery *Merkley's Office*
Mike Harryman *State Resilience Officer*
Tracy Farwell *Citizen*
Rachel Dorfin *Citizen*
Kelly Missett *ShakeAlert*

ADMINISTRATIVE MATTERS

Happy 30th birthday to OSSPAC. Scott Smith and Jenny Demaris will be switching places on the agenda today.



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Review and Approval of Minutes from May meeting

Althea Rizzo: Representative Anderson attended the meeting and needs to be added to the minutes. Safran moved and Nagele seconded the motion to approve the minutes and it passed.

Events Notification

None.

New Business

None.

September OSSPAC meeting

Brown is talking with the State of Oregon about possible locations in Salem and will be securing a location within a week or two. She will follow up.

REPORTS

ODOT (Christina LeClerc):

Busy working on the roads. Waiting on a federal declaration to be approved in hopes of receiving funding for Eastern Oregon flooding in May and June. It should bring 5 million in funding.

DLCD (Meg Reed):

Not much going on with earthquakes and tsunamis.

OEM (Althea Rizzo):

OEM is its own agency and will be moving into a new building in August or September. The building is on Fairview Industrial Drive and is an old ODOT building. We have the ShakeOut in October and are working on the Be 2 Weeks Ready rollout in 2023. There is still planning going on for Cascadia Rising 2023. The details haven't been ironed out yet.

DOGAMI (Jonathan Allan):

Advertising for a replacement earthquake geologist. Hope to have for Ian by the end of the year. Wrapping up an earthquake, tsunami risk assessment for Lane, Douglas and Coos County and hope to have the data on the street by next month.

DCBS (Aeron Teverbaugh):

Focused on other hazards. Residential Structures Board will be convening a rule making committee to look at the 2023 Oregon Revised Residential Specialty Code. There is a rule making hearing for the Oregon Mechanical Specialty Code on the 19th.



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DEQ (Scott Smith):

Senate Bill 1567 (Seismic Vulnerability Mitigation Group) has been approved. They are working to implement it and have named a manager, Mike Kortenhoff, who used to run the above ground storage tank program at DEQ. DAS is approving 4 positions.

Legislative Assembly:

Representative Gomberg: Legislative assembly not currently in session, but crafting is ongoing for the January session. Senator Anderson had nothing to add.

State Resilience Officer:

Harryman said it would be nice to have someone from the State Fire Marshall office, where the FTE is housed, come to give an update on the Oregon Seismic Safety Assessment Program OSSAP, particularly how they plan to get the program up and running similar to the California program.

Public Comment

Kelly Missett:

Works at OSU as the new ShakeAlert Regional Coordinator, replacing Lucy Walsh. Engages partners and stakeholders. She is looking forward to working with the CI Hub and the OSSPAC group.

Presentation: USCG/EPA Cascadia Rising Exercise (Scott Smith)

Smith gave an overview of a regional maritime meeting that had recently occurred in Astoria to discuss the impacts/response of a Cascadia Subduction Zone earthquake. The regional exercise that originated in 2016. 2/3 of counties participated. It was planned in 2022 and was mostly delayed. Two organizations still participated. Our first presentation is from the Coast Guard's 13th district. They did an exercise in Astoria a few weeks ago. This presentation covers what an exercise looks like from the onset of discussion Cascadia Rising and the Cascadia threat with our partners.

It was a Cascadia exercise, as well as a National Spill of National Significance. They tested different objectives. CEI Hub was chosen for the exercise due to its vulnerability, particularly with the CSZ. This was presented to the higher ups at Coast Guard, NOAA, FEMA, EPA, Department of Interior, Department of Energy, all in the Federal level.

The Juan de Fuca plate is experiencing lateral spreading from the Pacific Plate and is being pushed beneath the North American Plate along the Cascadia Subduction Zone. The fault is about 600 miles long and about every 300 years, there is a major earthquake. Expectations: Strong coastal shaking. Tsunami will travel up the Columbia to Longview. Because the threat was discovered in the 80's, everything built before the mid-90s is not built to seismic code. Shaking will last between 2 & 5 minutes and will be severe.



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Situated in Downtown Portland running along 6 miles of previous wetland and lakes, the area was filled in and turned into the CEI Hub. The dredge spoils are likely to cause liquefaction. There are 17 tank farms in the CEI Hub which house 350 million gallons of all types of refined oil and crude oil among the 537 tanks and three pipelines. Less than 2% of the tanks were built after 1993. This oil accounts for 90% of Oregon's oil supply (100% of PDX airport fuel).

DEQ uploaded data to a GIS dataset. Focusing in on the Willbridge area:

Only 1% has had a seismic retrofit completed, 52% are unknown and 47% have not.

3% were built after 1993. 45% of the tanks have an unknown age and 45% were built before.

- 11% Diesel/Gasoline, relatively stable.
- 18% Diesel
- 2% Ethanol
- 20% Unknown
- 4% Asphalt
- 1% Industrial Fuel Oil
- 20% Gasoline, unstable
- 2% Marine Fuel Oil
- 9% Crude Oil
- 5% Jet Fuel
- 5% Other

Around half of it is flammable, combustible. Eco Northwest put together an air model and found that gasoline components will volatilize quickly and will include butane, pentane, benzene and toluene. OHA's max allowable standards are for 300 ppm for 8-hour time weighted average, 550 ppm for 15-minute exposure. If winds do end up blowing to the NE Portland, the entire area of north Portland and large areas of Northeast Portland are going to be smelling this. It's cancerous, flammable.

Eco Northwest also put together a Fire/Explosion risk assessment for post-earthquake and located areas they were expected to occur. Portland Fire Houses #6 & #22 are in the areas, as are high voltage power lines. DEQ couldn't put people in because concentration levels will be too high. There wouldn't be nearby safety zones until 48 hours have passed. That would still leave a huge oil heading to Astoria and the Pacific Ocean over a 4-day period.

The plan is to have fuel to ship in from I-84. Most of the fuel (70%) is supplied from pipeline which will be damaged. 30% comes from ships, but rivers are not expected to be navigable. Docks at facilities are expected to fail.

Effective June 3rd, 2022 SB 1567 requires 17 facilities with fuel storage capacity of 2 million gallons to assess their seismic vulnerability and improve their infrastructure to better withstand earthquakes.



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Facilities have until June 2024 to do the seismic vulnerability assessments and propose risk mitigation plans.

- Updates at www.oregon.gov/deq/tanks/Pages/seismictanks.aspx
- EcoNorthwest report on the Impacts of Fuel Releases from CEI Hub: <https://econw.com/projects-collection/2022/2/23/impacts-of-fuel-releases-from-the-cei-hub-1>
- Oregon Fuel Action Plan: <https://www.oregon.gov/energy/safety-resiliency/Documents/Oregon-Fuel-Action-Plan.pdf>
- DOGAMI Risk Study for Oregon's CEI Hub: <https://www.oregongeology.org/earthquakes/CEI-Hub-report.pdf>

Gomberg asked if fires downriver will be a problem if the oil travels down river, and Smith replied that the best possible scenario would be for this to happen on the coldest possible day in Oregon. The oils won't burn completely. Fires are possible down the river. This spill is modeled at 165 million dollars (between the 110 million min and 220 million max). It is a gigantic spill. This is deep water, horizon size. The Golf War spill after the war in Iraq was larger but was caused by lighting up entire oil fields. This spill will be catastrophic.

Brown asked Smith to provide his takeaway of the EPA's primary role, and he said it was to find a way to finance the cleanup of this spill. There will be 17 responsible parties (facilities) the Stafford Act, or both.

Missert asked is there will be increased momentum within their consciousness, and Smith answered that they are aware that ShakeAlert exists. Many are interested in shutting down transfers. Shutting down the pipeline takes 15 minutes so that's much more difficult. OSU discussions with them would be very helpful.

Harryman said that private industries on private land should pay for the cleanup. None of the companies have adopted ShakeAlert, but Chevron might be the closest since they do it in California. It's a decent mitigation program. Brown clarified that Superfund is the Federal fund for hazardous materials spills and it assumes that the spill is of such significance that cleanup needs to get started. The funds allow for the cleanup with the EPA simultaneously investigates.

Smith added that all of the facilities have just over one million of the pollution liabilities insurance, so the 17 million would go toward the cleanup. Piping between tanks is part of the bill, but DEQ can't regulate interstate pipelines. Those are hands-off. The timeline for acting on the plans has not been stated explicitly. It begins in 2024. It could be a percentage per year or just a specific completion date.

Break Begins at 10:00

Break Ends at 10:05



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Presentation: Lincoln County Cascadia Rising Exercise (Jenny Demaris)

Demaris introduced Cascadia Rising: Cascadia Subduction Zone Catastrophic Earthquake and Tsunami Exercise 2022 that occurred earlier in the year June 9th – 16th in Baker, Benton, Clatsop, Harney, Lane, Lincoln, Marion, Umatilla and Union counties.

Specific to Lincoln County, in June of 2019, it was announced that this would take place in June of 2022. Covid, 2020 Wildfires, OEM becoming an independent agency all played a roll in slimming down the national level exercise. Lincoln Co had three groups. Team A = Exercise Development, Team B = Pre-development of catastrophic response documents, Team C = Public Outreach campaign.

FEMA Community Lifelines was a resource that the county didn't have much prior knowledge of and became a key concept for local policy group. The exercise was meant to start at step 4, but they chose to go back to Scenario Day 1 with the actual M9 and Tsunami. Day 3 brought an M7.5 aftershock among other smaller ones. By Day 5, the aftershocks start to subside. Rolled from the local communities up to the State and Feds.

Expanded ECC, Integrated Auxiliary communications increased. This demonstrated that they were not as coordinated as they'd hoped. Highlights: 8 tabletop exercises going simultaneously, 14 state agencies, 4 federal agencies, 1 county, 5 cities, 1 tribe, 110 participants. Additional tents were needed. Tried a new resource ordering form for the local level. How to get clean, consistent, standardized pen and paper messages can be sent to the state was a huge consideration. It was noted that there isn't enough solar, so generators were brought in.

Next steps: After action review. Expansion of catastrophic go-kits for local governments, priority clearance routes, finalize resource orders and continue the auxiliary communication expansion.

2023 focus: Moving from the infrastructure focus to a more-human focus. Mass care & sheltering, medical first aid stations, hospital surge, state/federal coordination. Local Government Catastrophic Go-Kits don't currently don't exist, and they plan to build it out by next exercise.

Presentation: Resilience Highlights from Japan, 2022 (Liz Safran)

Safran explained that she is engaged in learning what motivates the younger generation to prepare. Deaths were predominantly caused by the tsunamis. Seeing the reconstruction plan play out. New sea walls that will stop a level 1 tsunami, not level 2. Residences have been moved to higher ground. Towns have been rebuilt, but it has taken place with a declining and aging population and towns are not being fully reoccupied. Buffer zones have been built a couple of meters high. One sea wall was built as the back of a parking garage. Another wall goes over a river and the wall can come down if a tsunami is coming.



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People who are on rivers don't always understand the true risk of the tsunami. Schools had very different experiences based on plans in place. Japan has a 70% chance of another major event in the next 30 years, so they are focused on preparing. In one location, the tsunami is expected to reach 36 meters high. They have done a good job posting tsunami evacuation signs. Some evacuation routes are stairs up a hill or towers that have supplies. Supermarkets have disaster supplies front and center with signage.

There are memorials with signs warning of rivers swelling. RyuKyu Islands had their last event in 1771. They have a recurrence interval of roughly 200 years and is similar to the PNW. They have a log of disaster thinking going on in the community. Signs tell you your current elevation and are color-coded for whether it is a safe elevation. Some of the memorials have been recently installed, but others have been around for a long time.

They are ready because other areas were recently impacted, and they have an intense interest in their history and understand the history of earthquake risk. They also experience other hazards in tycoons that give similar risks. We need to support disaster learning in schools. We need to worry more about rivers. We need to tell more Cascadia stories. We need to link these disasters to others to keep the conversation starting.

Disaster culture in Japan vs here in Oregon: The small earthquakes there help it to feel more real and the schools teach the preparedness. The teachers take personal responsibility for the students. Municipalities are responsible to mitigate and prepare. They focus on government, community and individual response.

Two-week-ready provides a false sense of security to those on the coast. It really needs to be 4-Weeks-Ready.

Adjourn