



OREGON SEISMIC SAFETY POLICY ADVISORY COMMISSION (OSSPAC)

Minutes

November 14, 2023

OSSPAC Members Present:

Tiffany Brown, Chair	Local Government Stakeholder
Elizabeth Safran, Vice Chair	Public Member
Althea Rizzo	Department of Emergency Management
Christina LeClerc	Department of Transportation
Rep. David Gomberg	Legislative Assembly Representative - House
Sen. Dick Anderson	Legislative Assembly Representative - Senate
Matt Crall	Department of Land Conservation and Development
Natasha Fox	Schools Stakeholder
Allison Pynch	Public Member

OSSPAC Members Absent:

Jonathan Allan	Department of Geology & Mineral Industries
Todd Smith	Department of Consumer & Business Services
Lesley Ogden	First Responder Stakeholder
Carolina Abdalah	Multifamily Housing Stakeholder

Others in Attendance:

Jordan Peterson, Admin Support	ODEM
Luke Hanst	Portland State University
Alice Busch	Multnomah County
Amanda Fox	ODEM
Betty Stansbury	Department of Aviation
James Bela	Citizen
Mike Korten Hof	DEQ
Jonna Papaefthimiou	State Resilience Officer
Lalo Guerrero	Department of Geology & Mineral Industries



1. **Administrative Matters:**

Roll Call & Introductions: At 9:08 a.m., Brown opened the meeting, made introductions, and roll call was taken. Brown gave shoutout to Peterson for all his help in coordinating administrative matters for OSSPAC.

Review & Approval of September minutes: Fox made and Safran seconded a motion to approve the September minutes, all were in favor and the motion passed.

Events Notification: Great Shakeout exercise occurred on October 19 to great success with over 600,000 Oregon residents participating. Additionally, September was Preparedness month and October is focused on earthquake preparedness. Brown brought up that she has noticed great interest in preparedness/resiliency speakers at professional conferences lately which reflects on the importance and recognition of the work we do.

New Business: None

Next Meeting: The January 9, 2024 meeting will be held in the new Oregon State Treasury Building on Hawthorne Avenue in Salem, as well as meetings being available remotely over zoom. In addition to our regular meeting, we will also have a small “retreat” where we can get to know each other and have an opportunity for work on the State Resilience plan. Other plans and ideas can be built out during that time as well. Gomberg suggested the idea of touring the State Capitol building to see the seismic renovations that have been made.

2. **Reports:**

Legislative Assembly: Representative Gomberg conducting a legislative tour of water and sewer projects on the coast. The increased housing needs along the coast bring with it an increased need for water infrastructure and it is important to build new infrastructure keeping in mind the seismic threats that is will face.

Reminded the group that the state congress has short sessions in even-numbered years and long sessions in odd-numbered years. The upcoming short session in 2024 they will be making tweaks to the biannual budget and are limited to two bills each. Rep. Gomberg anticipates that key topics that will be brought up this session include housing, resilience, addiction, measure 110, and addressing legislative walkouts.

Senator Anderson commended Rep. Gomberg’s overview of the legislative schedule.

ODOT: LeClerc reminded the group about upcoming winter weather and to be personally prepared with winter kits in our cars. ODOT’s budget shortfalls are impacting the number of resources allocated to plowing this season so road conditions may be



worse than in previous years. With Jonna's help, got support from the governor's office to help cover expenses from flood damage that occurred in June along Highway 20 around the Burns Paiute tribe area.

DLCD: Crall discussed how DLCD continues work on natural hazard risk assessment upgrade, which will be the basis for the update to the natural hazard mitigation plan (will complete by 2025). Awaiting the formal BRIC grant fund allocation to begin the upgrade. Proposed that members of OSSPAC could help support this initiative, by sharing information about the seismic risks across Oregon, working to estimate the resultant deaths and damages from the various hazards. Rizzo brought up that she is working on exercise scenario for IronOR 24 exercise next Fall where she will be compiling some of this information.

Papaefthimiou asked the group what the largest hazards to life safety are following an earthquake. She suggested in the risk assessment to break it down by the individual risks post-earthquake that pose the greatest threat. She brought up a few on her radar including the risks of collapse that many state prisons face and the inhalation risk of toxic chemical spills. She wondered if Natural Hazard Risk Assessment or Oregon Resilience Plan could include a cost-benefit analysis to definitively set the priorities in mitigating the largest risks to life.

Guerrero shared that DOGAMI has been publishing a series of county-level multi-hazard and earthquake reports funded by FEMA that analyze the geographic and geologic data that outline the hazards and risks associated with them that would incorporate well into this discussion.

Rizzo noted that there is interest in a statewide assessment of loss estimation, and seismic risks from cascadia and other crustal faults, suggesting the idea of establishing a workgroup between ODEM, DOGAMI, DLCD, and other partners to help develop a comprehensive and definitive statewide seismic assessment.

ODEM: Fox announced her move to ODEM as the Inclusion, Diversity, Equity, and Accessibility Coordinator. In this position she will work on providing equitable access to preparedness, mitigation, recovery, and response initiatives around the state as well as internally at ODEM.

Rizzo announced that the Be2Weeks Ready program has been developed and will be launching next spring. Discussed the development of IronOR 24, a full-scale exercise simulating the response to a cascadia subduction zone event that will occur next October. There will be participation from many state agencies as well as local, tribal, and private sector partners that will test the state's evacuation, mass care, communication, and operational capabilities. Rizzo is working on the exercise scenario as well developing a "ground truth" document to get the most realistic look at infrastructure damage following the event. Additionally, she is developing the tsunami debris guidance document for assisting recovery efforts related to tsunami debris.



DOGAMI: Guerrero updated the progress on the Cascadia Source Models, which is a combination of USGS hazard sources that will be used to generate new probabilistic hazard analysis models. These models are critical in creating high-resolution inundation modeling along the coast. DOGAMI will be starting next spring with modeling Clatsop, Tillamook, and Lincoln counties and working down the entire coast through 2025. Can help

The CRESCENT kickoff meeting was held with a handful of DOGAMI employees in attendance, it will provide many great opportunities for collaboration.

Guerrero is currently working on a geologic map near Milton-Freewater mapping the Wallula fault zone which is the source of the 1936 state line earthquake. Coworkers are working on multi-hazard reports for Clackamas and Polk County as well as a cascadia loss estimation report for Eugene and Springfield. These reports will inform both English and Spanish outreach materials and a Spanish public presentation that will be given by Guerrero.

DCBS: No report.

DEQ: Korten Hof, manager of the fuel tank seismic stability program, presented on behalf of Smith. The proposed rule changes for Senate Bill 1567 were passed on Sept. 14 and DEQ is proceeding with implementation. The rules require the largest fuel storage facilities to be seismically resilient per current codes such as ASCE 7. Per the bill, facilities must submit their assessments and mitigation plans within the next two years and DEQ will review them, with a following ten-year construction implementation window. There was a robust environmental justice and equity analysis conducting with partners, such as PSU, to evaluate the community impacts and ongoing needs for DEQ related to this risk. First facility work is already beginning at the Port of Portland & Portland Airport have plans to start construction on new fuel storage tanks this spring. Will be working with them closely to ensure they are following all rules and stay on track. DEQ has been involved in and appreciates Multnomah County's work on the hazardous substance report that will be presented during this meeting.

State Resilience Officer: Papaefthimiou attended the CRESCENT kickoff meeting and appreciated her experience interacting with so many partners. She was invited to serve on the external board and look forward to her continued participation with them.

Got a tour of the remodeled terminal of Portland Airport. The project took inspiration from the Sendai airport in Natori, Japan. The project will utilize deep soil mixing to mitigate liquefaction for one of the runways to ensure a runway will survive cascadia. Because it will take the runway out of service for over a year, they are first focusing on making fixes to their other runways to ensure they are all functional for the duration of the project. The project will take 18 months for the repairs to the current runway and then an additional 24 months for the seismic runway. The airlines paid for the remodeled terminal and



\$3.75 million was secured from the 2022 federal omnibus spending bill for the runway upgrade.

No update on seismic-related bills in the February session.

3. Public Comment: None.

4. Hazard Analysis - Earthquake-induced HAZMAT Releases in the North Portland Industrial Areas: Presented by Luke Hanst (Portland State University) & Alice Busch (Multnomah County Emergency Manager)

Hanst is from the Institute for Sustainable Solutions at PSU which focuses on creating a more resilient and sustainable region. The project was funded by a grant that was intended to create an evacuation plan for the city of Linton. By the time they had received the grant funding, the city had developed its own plan. Instead, they changed their scope to instead investigate the toxic chemical risks and look at where a disaster resource shelter could be placed in Linton/CEI Hub that would be outside of the HAZMAT release area post-cascadia earthquake. A few goals of the project include the following:

1. Improve collaboration between hazmat experts, first responders, PIOs, and others.
2. Increase our understanding and awareness of the risks of an earthquake-induced HAZMAT release
3. Identify protective action and communication recommendations
4. Recommend next steps for increasing community resilience to this hazard

North Portland has a very high risk of liquefaction that will limit resources into the area, evacuations out of the area, and cause severe disruption of utilities such as power, water, and natural gas. There are many hazardous material facilities (acids, explosives, toxic inhalation hazards (TIH), etc.) that are within high-risk soil liquefaction areas along the Columbia corridor. The study focused on facilities with large quantities of TIHs that are in high-liquefaction risk zones near residential areas. Selected four facilities with the highest life-safety threat based on LEPC modeling.

Many of these facilities are sensitive to controlled or classified information such as exact facility locations, names of chemicals, etc. which can be tricky to navigate. To comply with this classified information, the study uses facility and material pseudonyms and does not provide exact quantities or location of the facilities.

TIHs pose the greatest threat to life safety due to their dispersion over a wide area. Acute symptoms of TIH exposure include severe irritation and burns to the eyes, skin, and respiratory system. Acute Exposure Guideline Levels (AEGL) indicate the effects of different exposure levels with AEGL 1 causing acute symptoms, AEGL 2 causing irreversible/chronic symptoms, and AEGL 3 causing life-threatening effects or death. Plume modeling is complex as each model can be so different depending on a wind



pattern, it is good to imagine it as a petal on a flower of possible outcomes based on conditions. The study chose two scenarios to model, a “summer” and “winter” weather scenario with wind coming from the northwest and southeast respectively. In the summertime release scenario from these four facilities alone, the model estimates 2,763 possible deaths and over 350,000 irritation exposures. This modeling only includes AEGL 2 & 3 exposure plume models for the area because the AEGL 1 plume is modeled to span from the North Portland peninsula all the way across the Portland metro area to Tualatin and West Linn.

Busch brought up the difficulty in displaying the areas affected because each plume models stands to represent a single possibility of many and how any way of putting out information for general consumption will be misleading because if the model will either show a single plume and give people a false sense of safety, or be a full circle containing all possible exposures and will be overstating the risk because not everyone in the circle will actually be exposed if a release occurs.

Protective actions individuals can take include evacuating, shelter in place, and utilizing personal protective equipment (PPE). However, these actions have major barriers including different chemicals requiring vastly different PPE and PPE expiring and losing effectiveness. Additionally, there are many issues and barriers to having any easy solution to proper evacuation notification, especially if multiple different chemicals are released simultaneously. There is currently no methodology to sample multiple chemical and model plumes for complex exposures. The current evacuation/shelter in place notification methodology follows a “donut model” where those in an AEGL 1 zone exposure will be notified to shelter in place, but those farther away in AEGL 2 and 3 zones would be told to evacuate before the plume reaches them. This will be impossible to calculate in this scenario.

Hanst brought up that these exposures are particularly scary within the context that this exposure will follow a cascadia earthquake, because decontamination requires copious amounts of water which will be unavailable if water infrastructure is damaged. Additionally, serious exposures will require hospitalization and access to mechanical ventilation which may be impossible due to transportation infrastructure damage.

ISS has policy and legislative recommendations pertaining to OSSPAC and SB 1567 including inter and intra-government coordination, full hazard analysis and planning, support for hospitals in preparing for mass casualty incidents, develop decontamination and medical response plans and capabilities, and development of public education and outreach to inform residents of the hazards and protective action recommendations.

5. ODAV Legislative Report on Airport Resilience (HB 3058): Presented by Betty Stansbury (Dept. of Aviation)



Oregon Department of Aviation is a small 15-person agency that help support airports, advise local government, register aircraft, inspect airports, and administer a small grant program.

Airport Resiliency Report (HB 3058) sponsored by Paul Evans passed in May 2023. Tasked ODAV with developing a report on airport resiliency, focusing on the role airports will play after a major natural disaster. Requires ODAV to consult with other state agencies and were given six months to complete the report with no additional funding.

Draft of report is out for review by 15 organizations including, but not limited to, the State Aviation Board, state agencies, and airports. Proposes a grant program to purchase resiliency equipment for public-use airports to stage airports for use when the cascadia earthquake happens.

Oregon has invested millions of dollars in ensuring our buildings will survive the earthquake and need to ensure our people will survive the aftermath. Oregon has 97 public-use airports across the state, the 2013 Oregon Resiliency Plan lists 28 airports with the potential to maintain or quickly restore operational functions after a major earthquake.

Following the earthquake, ODAV expects that all 25 central and eastern Oregon airports will be operational. Additionally, within one month 11 in the valley including Portland, Salem, and Eugene will be operational and another eight will be with three months.

Key needs for airports following an earthquake include increased on-site fuel storage, hardened runways, communications such as short range radio stations, alternative water distribution system and basic sanitation facilities, electricity to power equipment while electric grid is down.

Potential funding source federal funding through the Airport Improvement Project (AIP) grant but resiliency projects are not AIP-eligible. ODAV proposes creating a Statewide Airport Resiliency Assistance Grant Program which would fund generators, sweepers, communications, drones, fuel storage, communications, water storage, portable lighting, aircraft control devices that could be modeled after the ODEM SPIRE grant. This would be administered by either ODAV or ODEM depending on staffing availability.

7. Additional Discussion:

The group discussed the possibility of some kind of screening process to prioritize airport's access to SARA grant funds. Pyrch brought up ODHS's Cascadia Islanding Mapping Program which looks at areas that will likely be isolated from one another in the event of a cascadia earthquake. She suggested that if this screening does occur, to include the island mapping models in this process. Rizzo brought up that some of these improvements could be made under the BRIC grants and that depending on how it is set



up, SARA funds could be used as state match contributions to BRIC allocations. Kortenhof brought up that fuel tank resilience upgrades should be included within this program as well.

Adjourned: Brown adjourned the meeting at 11:13 a.m.

Next Meeting: January 9, 2024, 3 p.m. – 4 p.m.

DRAFT