



2019 Annual Report

Oregon Seismic Safety Policy Advisory Commission

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Oregon Seismic Safety Policy Advisory Commission

After the Loma Prieta earthquake in 1989, Oregon residents demanded that the State of Oregon better address earthquake hazards throughout the state. The state legislature established the Oregon Seismic Safety Policy Advisory Commission (OSSPAC) in 1991 through Senate Bill 96. The Commission is a group of eighteen individuals appointed by the Governor. They represent a variety of interests regarding public policy and earthquakes and include representatives of many state agencies, a member each from the Oregon House and Senate, representatives of important stakeholder groups, and members of the public. The OSSPAC mission is to positively influence decisions and policies regarding pre-disaster mitigation of earthquake and tsunami hazards; increase public understanding of hazard, risk, exposure and vulnerability through education; and be responsive to new studies or issues raised around earthquakes and tsunamis.

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2019 OSSPAC Members:

Jeffrey Soulages
Chair, Public member

Tiffany Brown
Vice-Chair, Local Government Stakeholder

Matt Crall
Dept of Land Conservation & Development

David Gomberg
Representative, Legislative Assembly

Dacia Grayber
First Responder Stakeholder

Joe Karney
Utilities Stakeholder

Christina LeClerc
Oregon Dept of Transportation

Ed MacMullan
Banking Stakeholder

Bonnie Magura
Schools Stakeholder

Walter McMonies
Multi-family Housing Stakeholder

Trent Nagele
Structural Engineer Stakeholder

Adam Pushkas
Building Owners Stakeholder

Althea Rizzo
Oregon Office of Emergency Management

Arnie Roblan
Senator, Legislative Assembly

Susan Romanski
Public Member

Aeron Teverbaugh
Dept of Consumer and Business Services

Yumei Wang
Department of Geology and Mineral Industries

Katie Young
Public member



membership & financial

The following annual report provides a brief overview of activities in which the Oregon Seismic Safety Policy Advisory Commission (OSSPAC) was engaged in 2019. This includes description of changes in Commission membership over the year, a financial summary, summaries of all official testimony received during the year, descriptions of major reports and letters produced and priorities for the upcoming year.

Completed projects, along with relevant reports or studies, are placed on the OSSPAC webpage at: <https://www.oregon.gov/oem/Councils-and-Committees/Pages/OSSPAC.aspx>.

Changes in Commission Membership

As established by statute, the Commission consists of 18 members: 5 representing state agencies, 2 members of the Legislature (one House and one Senate) and 11 appointed by the Governor. These include one representative of local government, one representing a school district, community college or university, and three representing the general public. The year saw quite a few changes in membership at every type of position.

Stakeholder: Schools: Doug Dougherty, Superintendent-Emeritus of Seaside School district retired in June from a long tenure on OSSPAC including his unwavering support for school safety especially those in the tsunami inundation zone along the Oregon coast. He successfully convinced Seaside voters to pass a bond measure to move their schools outside of the inundation zone. His replacement is Bonnie Magura who taught middle school science at Portland Public Schools for 20 years. She has been awarded the Oregon Science Teacher Association's State Science Teacher of the Year award as well as the National Science Foundations' National Presidential Award for Excellence in Math and Science Teaching. She is active in developing tsunami education materials for the Cascadia Earthscope Earthquake and Tsunami Education Program at OSU.

Stakeholder: First Responder/Non-Governmental Organization: Cara Sloman, regional disaster program officer for the American Red Cross left her position and the Commission in May. She participated in OSSPAC's report on Mass Care and Mass Displacement published in 2018. Her replacement is Dacia Grayber, a firefighter and paramedic for the past 15 years first with the City of Bellingham and now with Tualatin Valley Fire and Rescue. She is a former paramedic instructor and received an award from the National Homeland Security Association in 2017 for her innovative exercise design for "Cascadia Rising 2016" held in the Pacific Northwest.

Public Member: Jay Raskin, former mayor of Cannon Beach and architect in Portland retired from the Commission in June and served two years as Vice-Chair and two years as Chair of OSSPAC. Jay helped create the Oregon Resilience Plan and was chair of the National Institute of Standards and Technologies' Community Resilience Panel. Current Vice-Chair and Public Member Jeff Soulages succeeded Jay as Chair. His replacement is Katie Young who is the Indigenous People's Collaboration Project Manager for the Oregon Lands Trust. She taught English for the Japan Exchange and Teaching Program and advocates for environmental protection in the public and non-profit sectors.

Legislative Member: Rep. Debbie Boone retired from the Commission in January after she finished serving out her final term in the Legislature. Always a champion for seismic safety for all Oregonians and especially her constituents on the coast, she will be sorely missed by all who had the honor of working with her. Rep. Tiffany Mitchell, who took over Rep. Boone's seat for House District 32, joined the Commission for a few months from May to October but was replaced by the Speaker of the House in October with Rep. David Gomberg. He is a Democrat who has served District 10 on the coast since

2012 which includes Yachats north to Tillamook and inland to Sheridan and Falls City to the east. He is vice-chair of Ways and Means and co-chair of Transportation and Economic Development. He is also a member of the Ocean Science Trust and the Oregon Innovation Council.

State Agency: Oregon Department of Transportation: Greg Ek-Collins retired from the Commission after 10 years of distinguished service including significant contributions to the Oregon Resilience Plan chapter on Transportation. He was the Emergency Operations Manager for ODOT since 2009 and retired in November. His replacement is Christina LeClerc who currently serves as Emergency Operations Coordinator for ODOT.

Administrative Support: In June, Bev Hall retired from the Office of Emergency Management thus concluding her support to the Commission as OSSPAC Secretary for the past 15 years. Her organization and institutional knowledge will be sorely missed. In November, OSSPAC was pleased to hear that Selicity Icefire had been recently hired and would be providing ongoing support to the Commission.

Financial Summary

OSSPAC has a small budget administered by the State of Oregon through the Office of Emergency Management (OEM). OEM additionally provides technical, clerical and other necessary support services. On occasion the Commission receives additional funding or in-kind services contributed to specific projects but relies primarily on the volunteer hours contributed by its membership. The support received in 2019 is shown in Table 1.

OSSPAC Budget for Fiscal Year 2019/2020	
Oregon Emergency Management	\$5,000
DOGAMI In-Kind Services (CEI Hub Report Assembly)	60 hours

Figure 1: OSSPAC Budget for 2019

The nominal expenses incurred by the Commission are typically related to special projects and meetings that occur outside the regular schedule/location. In 2019, the entire budget was used on the writing and production of the CEI Hub report published in December.



testimony to commission

The Commission by statute meets every 2 months on the second Tuesday of the month in January, March, May, July, September and November. Testimony is provided to the Commission on a myriad of subjects but is often in support of current projects and issues being deliberated. The following is a summary of invited testimony to the Commission at each meeting.

January 8, 2019

Deanna Henry, Department of Energy: Presentation on the CEI Hub including the laws, history infrastructure and supply issues. Concluded that fuels are a regional problem and recommended that OSSPAC reach out and develop a regional approach to regulation.

Lori Koho, Public Utilities Commission: Presentation on utility safety and reliability. Indicated that the PUC does not have authority over fuel tank facilities but does regulate natural gas facilities.

Barnes Ellis, City Club of Portland: Presented on nine-month City Club study called “Big Steps Before the Big One” which included a section on the CEI Hub. Urged OSSPAC support for LC1753 which addressed the seismic vulnerability of above-ground tanks. Suggested moving the fuel hub to The Dalles or Pasco.

Jonna Papaefthimiou, City of Portland Bureau of Emergency Management: Gave an overview of the Linnton neighborhood which is very near the CEI Hub.

Tom Armstrong, City of Portland Bureau of Planning and Sustainability: Presented on the City of Portland Fossil Fuel Terminal Zoning proposal. Would not allow new tanks to replace existing tanks and would not allow additional fossil fuel tanks or relocating the fuel depot within the City of Portland.

March 12, 2019

Michael Heffner, Oregon State Fire Marshal: Discussed that responsibility for inspections of the CEI Hub is the Portland Fire and Rescue. Also discussed the “Community Right to Know” database of hazardous material sites, the State Emergency Response Commission, the Local Emergency Planning Committee and the Oregon Regional HazMat Emergency Response teams.

Karmen Fore, Oregon Solutions: Presentation on the study recently completed with stakeholders at the CEI Hub. Focus of report was on incentives and regulatory authority. Recommended continuing to engage with critical partners, an education-focused collaborative table and continuing to explore incentives.

May 14, 2019

Elizabeth King, Washington State Energy Office: Presentation on Washington Fuel Shortage Action Plan which is in development. They regulate the 5 refineries in Washington but not the pipeline bringing fuel to Oregon – that is regulated by the Utility and Transportation Commission. They already have their own Fuel Planning Priority Guidelines document.

Nate Takara, City of Portland Fire Marshal: They inspect facilities at the CEI Hub every two years for compliance with the level agreed to upon completion of the tank. Changes to the facility as well as expected performance of the spill containment walls are referred to plan review and code enforcement in the Portland BDS. Explosion control for tanks at the CEI Hub is focused on one tank at a time.

Rob Root, City of Portland, Emergency Management liaison officer: Utilize an “orange book” which contains all their hazard plans. They have 3 hazmat teams, 3 fire boats and 2 fire stations near the area. They would like new laws governing tank improvement and spill control and containment including fire-extinguishing systems.

Ed, MacMullan, OSSPAC Member, Economic Study at CEI Hub: Reported out on progress on economic study for the CEI Hub. Incentive programs are difficult as all companies at the Hub have different goals. Currently working with draft report from Peter Drusika at Portland State University and recommending having him testify on his work.

July 9, 2019

Jonna Papaefthimiou, Portland Bureau of Emergency Management for Peter Drusika, Portland State University: Presented on recent report by Peter Drusika as he was out of the country and could not be here in person. Detailed look at the number of tanks at the CEI Hub, categorized by age and type as well as proposed mitigation measures and cost estimates to implement.

Scott Porter, Washington County: Addressed the extensive emergency management fuel planning done by the County and how it interacts with the CEI Hub. Also discussed work being done by Regional Disaster Preparedness Organization of which the county is a member. Believes the issue is not just the Hub but our entire fuel delivery system. Feels public-private partnerships could be the answer to fix the CEI Hub.

Arash Khosravifar, Portland State University: Presented “Liquefaction Mitigation Study using Bio-Remediation.” He described a mitigation technique using microbes that change the structure of the soil and mitigate existing liquefiable soils in place without removal or replacement of soil. Technique could be employed at CEI Hub if found economically viable in large scale or any other area with liquefaction hazards.

September 10, 2019

Gary Chock, ASCE 7 Tsunami Loads and Effects Subcommittee Chair: Presented the first tsunami-design provisions to be added to the building code. Includes a tsunami design database, vertical evacuation options, and post-disaster requirements. Only impacts Risk Category III and IV buildings. Provisions tested using buildings from Tohoku.

Dan Cox, Oregon State University: Presented the probabilistic hazard analysis used as a basis for the maps and design provisions that match the return periods already established for the seismic maps. Can still do a site-specific analysis if desired.

Seth Thomas, Structural Engineers Association of Oregon: Presentation on structural engineering aspects of the provisions including hydrodynamic, hydrostatic, debris design and foundation design to prevent scour. Reviewed Ocosta Elementary school in Washington and OSU Marine Science Building projects that utilized these procedures.

Chris Goldfinger, Oregon State University: Presentation on development of the DOGAMI hazard maps that use multiple “t-shirt” sizes to develop scenario tsunami hazard lines and the differences between the maps in ASCE 7-16 which are probabilistic maps.

November 12, 2019

Jay Wilson, Clackamas County Disaster Management: Showed a video that had been shown at the Oregon Emergency Management Association conference. Discussed the nexus between seismic and climate change impacts. Advocated for using the risk at the CEI Hub to reduce dependence on fossil fuels in the City of Portland’s 2050 plan.

Richard Franklin, US Environmental Protection Agency, Region 10: Discussed his role as on-scene coordinator for large hazardous material spills throughout the region. Discussed different types of oil types at the CEI Hub and several case studies regarding environmental disasters due to liquid fuel spills and impacts to coastal areas.



reports, letters & priorities

OSSPAC discussed, investigated, took testimony and wrote policy positions on a number of topics during 2019 but the one that occupied a substantial portion of the year was the CEI Hub report requested by the Governor. The other major topic concerned the updating of the tsunami maps at the Oregon coast.

CEI Hub Report

In June of 2018, OSSPAC was tasked by the Governor and the State Resilience Officer to conduct a 15-month study on Oregon's Critical Energy Infrastructure (CEI) Hub located in northwest Portland.

The Commission was asked to focus on the following:

- Conduct an analysis of state and federal guidance on the regulatory authority for seismic upgrades to structures, pipelines and include land mitigation.
- Determine if a current state agency has statutory authority to develop long-term mitigation efforts and if not, recommend which state agency would be best suited for this new authority.
- Work in conjunction with Oregon Solutions to develop public-private partnerships and determine incentives that focus on hardening current infrastructure.
- Showcase the Earthquake Early Warning system to encourage seismic awareness in the private sector.

In gathering input for the project, the CEI Hub Working Group of OSSPAC consulted with the State Resilience Officer and engaged other state and local government officials. Four small task forces were created, each dedicated to one of the topics above. In addition, special meetings of the full Commission were held bi-monthly to develop data and deliberate recommendations included in the report. Testimony was gathered from representatives of non-governmental organizations, state and federal agencies, and members of the public. Finally, Commission member teams conducted interviews with several state agency representatives.

The results of this focused effort with a tremendous amount of hard work by the Commission members is the following report, available on the OSSPAC website: https://www.oregon.gov/oem/Documents/OSSPAC_CEI-Hub_report_122019.pdf. The report was sent to the State Resilience Officer in December of 2019 for distribution to the Governor and Legislature. The intent was to publish hard copies of the report as well for their use and reference.

Tsunami Inundation Mapping Letter

During the 2019 Legislative Session, House Bill 3309 passed the Oregon House and Senate with nearly unanimous bipartisan support before OSSPAC was able to provide input and comment. That legislation eliminated the existing moratorium on building hospitals and other critical facilities in the tsunami inundation zone that have been in place since 1996. The bill caught many by surprise and created a lot of anger and confusion within the seismic-safety community in Oregon. During the run-up to the legislative session, OSSPAC, the Governor, representatives from the Coast and others were already participating in a task-force of what to do to update the SB 379 regulatory maps that are very out of date with current science on the risks to coastal communities from tsunami effects. In response, the Chair and Vice-Chair of OSSPAC prepared a letter recommending updates to the current seismic/tsunami regulation along the coast in particular to adopt the new tsunami design provisions in the upcoming ASCE 7-16 national consensus standard. In addition, OSSPAC took extensive testimony regarding the bill content and the manner in which it passed and participated in a series of three work-

shops held along the Oregon coast aimed at addressing coastal resilience and concerns about building in the tsunami inundation zone. They also have been meeting with the Representatives Gombert and Evans on upcoming legislation to further move forward this issue to safeguard critical facilities built on the Oregon coast.

Looking Ahead

At their first 2020 meeting, OSSPAC conducted a strategic planning exercise with the Commissioners to identify priorities for the coming year and into the future. The Commissioners were provided eleven focus areas to choose from, and each was asked to select the three they felt were the highest priority. The goal was to reach a general agreement by identifying 1-2 issues per year for the Commission to focus on for the next 3-year period. The focus areas identified for future Commission effort included the following:

1. Tsunami hazard maps
2. Review of State Resilience Grant Program
3. Transportation infrastructure
4. ShakeAlert/instrumentation
5. Hospital safety
6. Functional recovery
7. Post-earthquake building inspection
8. Hazardous buildings
9. Resilience of single-family homes
10. State Department of Education sponsored education/curriculum for geohazards and seismic resilience
11. State Building Codes Division engagement on resilience

After much discussion and voting, the topics were distributed into year groups as follows:

- 2020: Functional recovery, resilience of single-family homes, tsunami hazard maps.
- 2021: Transportation infrastructure, hospital safety and hazardous buildings.
- 2022: Review of State Resilience Grant program, ShakeAlert/instrumentation, Post earthquake building inspection, State Department of Education sponsored education/curriculum for geohazards and seismic resilience and State Building Codes Division engagement on resilience.

These priorities are intended as general guidelines and can be modified as priorities change in real time throughout the year. It is hoped that this prioritization exercise can be conducted on an annual basis to provide proactive focus to the Commission's activities.

