

# Fuel Storage Seismic Vulnerability LC 145

(Chief Sponsor: Senator Dembrow SD 23)

## Background

Oregon's aging fuel storage infrastructure is vulnerable to critical failure in a future Cascadia Subduction Zone earthquake. The Critical Energy Infrastructure (CEI) Hub, a six-mile long facility on the Willamette River in NW Portland containing 90% of the state's liquid fuel supply, poses the greatest threat to our fuel storage system.<sup>i</sup> Some fuel tanks at the CEI Hub are more than 100 years old and resting on unstable river fill that will face liquefaction in a major earthquake.

## The Problem

"The Critical Energy Infrastructure Hub is a major threat to safety, environment, and recovery after a Cascadia Subduction Zone earthquake on par with the 2011 Fukushima nuclear meltdown in Japan."<sup>i</sup> Frontline communities in North Portland would be hit first and hardest, but a major disaster would impact the entire state of Oregon.

Currently, no agency regulates the seismic performance of existing fuel storage structures or requires mitigation activities. Private industry is unlikely to improve hazard mitigation efforts unless compelled to act.

SB 95 (2019) would have "Require[d] owners and operators of bulk petroleum terminals to conduct and submit to the Department of Environmental Quality seismic vulnerability assessments,"<sup>ii</sup> but the bill sponsors chose to stop the bill and wait for Oregon Seismic Policy Advisory Safety Commission (OSSPAC) to publish recommendations that were expected later in the year. Their eventual recommendations were consistent with SB 95.

## The Solution

Local and state level stakeholders must work together to mitigate the seismic risk for Oregon's fuel storage infrastructure. Until Oregon has successfully transitioned away from its current dependence on fossil fuels, facilities like those in the CEI Hub pose a major risk to human and environmental safety and statewide disaster resilience. Passing a revised version of SB 95 (2019) that includes recommendations from the 2019 OSSPAC report on "CEI Hub Mitigation Strategies" will give DEQ authority to require fuel storage facilities (or *bulk oils or liquid fuels terminals*) to assess their seismic vulnerability and implement mitigation plans to reduce risks. This bill would also require the Oregon Department of Energy (ODOE) to develop an Energy Security Plan that recommends steps to improve community resilience by increasing geographic diversity of fuel storage capacity. This is an important first step to improve public safety during disasters after years of inaction.

### CEI Hub contains:

- Over 90% of the state's liquid fuel supply
- 100% of the jet fuel for PDX airport.
- Hundreds of tanks holding various forms of oils and liquid fuels with a storage capacity of over 8.6 million barrels.
- 46 large above-ground liquid fuel tanks.  
(OSSPAC)

### **Key Components for DEQ** added to ORS chapter 468

- Definition of bulk oils or liquid fuels terminal, which includes facilities with a capacity of 2 million gallons or more
- Require bulk oils or liquid fuels terminal owner or operator to conduct and submit a comprehensive seismic vulnerability assessment of the entire facility to DEQ, including a determination of the site's vulnerability to liquefaction and consequences and potential threats to frontline communities and natural resources, no later than June 1, 2024.
- Require bulk oils or liquid fuels terminal owner or operator to implement a seismic risk mitigation implementation plan that has been approved by DEQ.
- Allow the Environmental Quality Commission to adopt rules for: requirements of the seismic vulnerability assessments and a seismic risk mitigation implementation program; provisions for training and response exercises for uncontrolled releases; and design and construction standards for mitigating risk at existing facilities.
- Allow DEQ to fine bulk oils or liquid fuels terminals with the standard civil penalty matrix if they fail to submit a seismic risk mitigation implementation plan.
- Require DEQ to submit a special report to the legislature with policy recommendations by September, 2024.

### **Key Components for ODOE**

- Require Oregon Department of Energy (ODOE) to develop an Energy Security Plan that aligns with strategies in the Oregon Fuel Action Plan and makes recommendations for increasing geographic diversity of fuel storage capacity in Oregon to increase statewide seismic resilience. The plan must consider impact to frontline communities and remain consistent with the state's commitment to reducing greenhouse gas emissions.
- Require ODOE to provide updates to the Legislature on implementing the Energy Security Plan no later than September 15 of even numbered years.
- Create an Energy Security Plan Fund to receive federal funds that have already been secured.

### **Fiscal Impact**

The anticipated fiscal impact will affect DEQ and ODOE. Further analysis is necessary to understand current capacity and additional needs for the agencies to meet the requirements of the bill. The work on ODOE's Energy Security Plan will be funded through federal dollars. DEQ's work will be funded through a combination of fees and state resources. In addition, there may be opportunities to leverage further federal funding to support the work through newly appropriated Infrastructure dollars.

For more information, contact Sierra Prior, Chief of Staff to Senator Dembrow at [sierra.prior@oregonlegislature.gov](mailto:sierra.prior@oregonlegislature.gov)

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<sup>i</sup> OSSPAC. Mike Harryman, State Resilience Officer. 31 December 2019. *CEI Hub Mitigation Strategies: Increasing Fuel Resilience to Survive Cascadia*. OSSPAC Publication 19-01. Available from: <https://www.oregon.gov/oem/Councils-and-Committees/Pages/OSSPAC.aspx>

<sup>ii</sup> OLIS. Oregon Legislative Information System. 2019 Regular Session. SB 95 Overview. Available from: <https://olis.oregonlegislature.gov/liz/2019R1/Measures/Overview/SB95>