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7 February 2022

Members of the Senate Energy and Environment Committee  
900 Court St. NE  
Salem, OR 97301

**RE: Support for SB 1567, 2022 Oregon Legislative Session**

Dear Members of the Senate Energy and Environment Committee,

My name is Armin Stuedlein, Professor of Geotechnical Engineering at the School of Civil and Construction Engineering at Oregon State University. My professional and research expertise includes assessing the behavior of weak soils subject to liquefaction and cyclic softening during earthquakes and which are responsible for considerable damage in earthquake-prone regions. Liquefiable soils are widely-distributed in Western Oregon and underlie the population centers that span the coast, the Columbia and Willamette rivers, and the Willamette Valley. I have recently concluded a field study of the liquefaction characteristics of the soils underlying the Port of Portland under the Port's auspices as they seek to enhance the seismic resilience of their infrastructure. The Port of Portland represents one of several critical infrastructure hubs that the State of Oregon will rely upon to remain resilient in the face of a Cascadia Subduction Zone earthquake.

The Critical Energy Infrastructure (CEI) hub represents one of many essential facilities that must remain operational following a Cascadia earthquake. The bulk oil tanks along the lower Willamette River are situated on soils that are subject to liquefaction, and owing to their proximity to the Willamette river channel, are also subject to highly-damaging lateral spreading displacements. Previous megathrust earthquakes (e.g., 2010 Maule in Chile; 2011 Tohoku in Japan) have provided ample evidence for the kind of damage that is possible at the CEI. Loss of operability at the CEI following a Cascadia earthquake could mean that critical fuel supplies necessary for emergency response and reconstruction will be unavailable when it is most needed. Their loss could also represent a significant environmental hazard. The CEI hub represents just one of many examples where we can improve fuel security across the State of Oregon; indeed, most of our fuel storage facilities are situated in similar, precarious geologic conditions.

Senate Bill 1567 will serve as a strong and necessary vehicle for improving the seismic resilience of our communities. I am writing to express my strong support for SB 1567 and respectfully request that you co-sponsor and pass this bill.

Sincerely,

Armin W. Stuedlein