

Comments to the Portland Planning and Sustainability Commission on the Proposed Terminal 6 Environmental Overlay Zone Boundary and Code Amendment. January 13, 2015.

I am Dr. Theodora Tsongas, an environmental health scientist, a member of the Multnomah County Local Emergency Planning Committee and the Environmental Workgroup of Oregon Physicians for Social Responsibility.

We are greatly concerned about the proposal by the Port of Portland and Pembina Pipeline Co. to amend the environmental zones to allow a propane terminal to be built and propane to be transported through environmental zones through pipelines to storage tanks, through pipelines to refrigerated tanks, through pipelines to tanker ships. We are concerned about the very real danger of fires and explosions. Propane is an extremely flammable hazardous material.

There have been too many incidents where firefighters and community members have lost their lives or been injured by explosions from leaking propane tanks. On average, firefighters respond to propane incidents in the US once per day [1]. In Ghent W. Virginia, a 500 gallon tank leaked into a general store, the gas ignited, the building exploded and was completely destroyed, killing 4 people and injuring 6 [2]. In Albert City, Iowa an 18,000 gal tank of propane exploded killing two firefighters and injuring 7 [3]. In Kingman AZ, propane was being transferred from a rail car containing 33,000 gallons to a storage tank. A boiling liquid expanding vapor explosion (called a BLEVE) caused the deaths of 11 firefighters. The explosion ripped apart the steel rail car, one three-ton end of which was thrown 1/4 of a mile away, and sent debris and flames 2000 feet away, igniting several buildings[4]. In California, a 29,000 gallon rail car filled with propane was being routinely checked when the propane ignited due to static electricity. One man was burned, the fire was limited to one car, but evacuation of a 1 mile radius was necessary because of the potential for explosions and ignition of the propane in 3 other cars as well as storage tanks nearby [5].

The proposed terminal will have a daily capacity of 1.6 million gallons of propane per day. Unit trains of 100+ tank cars holding 10-30,000 gallons of propane each will be offloaded to eight 125,000-gallon storage tanks, refrigerated, and transferred to 2 refrigerated storage tanks holding some 33.6 million gallons of propane, stored for +/- 15 days until the propane is transferred to ships for ocean transport. At any point in this transfer process, an explosion or fire could occur that would be catastrophic. Explosions could be caused through simple error, including a derailment, or through terrorist activity. Explosions could result from natural disasters: from earthquake, tidal surge, or liquefaction event. What is the blast zone for one exploding rail car carrying propane? We know that it was 1/4 to 1/3 mile for one rail car explosion in Arizona. What is the blast zone for one unit train with 100 propane filled tanker cars? What is the blast zone for a storage tank holding 33.6 million gallons of propane? Why is this information not provided in the analysis provided to you and the public?

Both Portland and Multnomah County have a policy for decision making that is based on the precautionary principle [6], whereby in the event of insufficient evidence that an action may cause harm, the burden of proof falls upon those taking the action to demonstrate that it will not be harmful; the burden of proof falls on the Port of Portland and Pembina to demonstrate that a fire or explosion cannot happen.

We urge you to reject the proposal by the Port and Pembina. Do not amend the established environmental zones. Thank you.

References:

[1] "Propane Fires and Explosions." www.AristaTek.com/newsletter/Jan09/TechSpeak.pdf
Jan 2009.

[2]http://www.csb.gov/completed_investigations/docs/CSBFinalReportLittleGeneral.pdf.

[3]http://www.csb.gov/completed_investigations/docs/Final%20Herrig.pdf.

and "Fire Fighter Fatality Investigation Report F98-14 | CDC/NIOSH" <http://www.cdc.gov/niosh/fire/reports/face9814.html>.

[4]"Kingman Arizona Propane Explosion" <http://kingmanhistoricaldistrict.com/points-of-interest/firefighters-memorial-park/the-disaster-story.htm>

[5]https://www.dir.ca.gov/dosh/citations/Titan_Propane_LLC_narrative_summary.pdf

[6] MultCo-Portland Toxics Reduction Strategy 2006

Submitted by Theodora Tsongas, PhD, MS, Portland, Oregon.