



Memorandum

TO: Whatcom County Planning Commission
THROUGH: Mark Personius
FROM: Joshua Fleischmann
DATE: April 21, 2021
SUBJECT: PLN2019-00010 - Surface Mining Pipeline Buffer

This memo is intended to provide background on a docketed amendment for surface mining near gas or petroleum transmission pipelines. We request your consideration of proposed amendments to the zoning code related to the docketed proposal, which states:

Amend the Whatcom County Comprehensive Plan and Whatcom County Code to determine the minimum safe distance to allow surface mining to be conducted from a petroleum pipeline to ensure a pipeline will not become exposed or rupture during an earthquake event and contaminate an aquifer. Determination should be based on independent sources where possible and assume a magnitude 9.0 or greater earthquake could occur.

In response to the proposal, staff reached out to multiple jurisdictions and pipeline operators in an attempt to find out if there is a minimum safe distance presently in use. The result of the inquiry is that there is not.

BP's response was the most thorough, stating:

"...we gathered a cross-functional team that included representatives from BP Operations and Maintenance, Engineering, Damage Prevention and Right of Way. The team ultimately concluded that the safe distance between surface mining and pipelines is case specific. There are too many variables - including the type of surface mining, location of the earthquake's epicenter, soil conditions, and topography - that preclude us from providing a universal answer that is scientifically supportable. Indeed, it is difficult to predict with certainty how a 9.0+ earthquake would affect any infrastructure including roads, power lines, and pipelines."¹

In response, without examples of minimum standards, the following language was drafted by PDS staff to be an additional Conditional Use Permit approval criterion for surface mining subject to the surface mining act:

WCC 20.73.153(9)

When mineral extraction is proposed within 500 feet of a gas or petroleum transmission pipeline, a site specific geotechnical analysis of potential impacts to

¹ Horn, Marc, District Operations Manager, BP USPL, "Horn Letter to Fleischmann 05.30.2019"

the pipeline is required. The analysis shall show that mining will not result in an increased likelihood of the pipeline becoming exposed or rupturing during an earthquake, and shall consider various seismic scenarios with a 2 percent probability of exceedance in 50 years on both proximal crustal faults and at the Cascadia Subduction Zone.

In the proposed code language (above), "2 percent probability of exceedance in 50 years" is an industry standard for seismic designs that must consider large-magnitude, low-frequency seismic events. It is the common design standards for developments like essential or emergency facilities. By considering seismic events with this low recurrence potential, both on local crustal faults and at the Cascadia Subduction Zone, the required assessment essentially addresses a worst case scenario²

The Surface Mining Advisory Committee (SMAC) voted unanimously in support of forwarding this language to the Planning Commission for their review and recommendation to the County Council.

I look forward to discussing the merits of this SMAC recommendation with you.

² Wiser, Andy. "Earthquake Frequency." Received by Joshua Fleischmann, 6 Jun. 2019.