

3.7 Risk of Explosion

3.7.1 Affected Environment

Current Plan Area

Sources of Explosion Risk

The risk of explosion can come from a variety of existing and potential new sources located within the current plan area. The sources could include:

- **Industrial production and storage.** Industrial activities producing volatile chemicals or that use chemicals in an industrial process could explode if handled improperly. Chemical distribution companies may also be sources of explosion.
- **Commercial activity.** Several commercial activities could store sufficient chemicals on-site to be an explosion risk. These include gas stations, hardware stores, and auto supply stores.
- **Commercial boilers.** Boilers associated with heating of large structures such as industrial buildings or schools could cause explosion.
- **Natural gas lines.** Natural gas lines can cause explosions if ruptured. The magnitude of the explosion is dependent on the size of the line. Sumner is traversed by two major natural gas lines, one 30-inch-diameter line and one 26-inch-diameter line.
- **Roadways and railroads.** Accidents and/or spills associated with chemicals being transported on public streets and railroad lines could be an explosion hazard.
- **Aviation.** Sumner is under the flight path for the Seattle-Tacoma International Airport as well as various local airports and heliports. An aviation accident could carry the risk of explosion.

Regulatory Environment

The City of Sumner (City) uses the 2009 International Fire Code and International Building Code as adopted by the State of Washington through Ordinances 2328 and 2329, respectively. Areas outside of the Sumner city limits are subject to Pierce County development regulations, which have also adopted the International Fire Code.

Orton Junction Expansion Area

Sources of Explosion Risk

The primary risk of explosion in the Orton Junction expansion area is from natural gas pipelines. An interstate natural gas pipeline runs through the expansion area, connecting Sumner's local supply mains to the regional supply system.

Land uses in the Orton Junction expansion area are primarily agricultural in nature, making the current risk of explosion low for sources other than natural gas line rupture.

Regulatory Environment

As unincorporated territory, the Orton Junction Expansion Area is subject to Pierce County's adopted building and construction codes, including its adoption of the 2006 International Fire Code. The Washington State Building Code Council has prepared amendments to the 2009 International Fire Code, which will become effective July 1, 2010.

East Hill Reduction Area

Sources of Explosion Risk

The primary risk of explosion in the East Hill reduction area is from natural gas pipelines. An interstate natural gas line runs through the reduction area, as well as the eastern portion of Sumner, connecting Sumner's local supply mains to the regional supply system. A compression station facility for the pipeline is located adjacent to the reduction area.

Current land uses in the Reduction Area are primarily low-density residential in nature, making the current risk of explosion low for sources other than natural gas line rupture.

Regulatory Environment

The current regulatory environment is the same as for the current plan area.

3.7.2 Impacts

Impacts Common to All Alternatives

The risk of explosion increases with new development. Additional commercial and industrial activity, as well as increased truck and rail traffic, increases the sources for explosions. Residential development located near existing natural gas lines raises the risk that an explosion would affect a greater number of residents. Demands on the fire and police departments for manpower, equipment, and support increase with the increased risk.

Impacts Specific to the UGA Expansion (Orton Junction) Alternative

The UGA Expansion Alternative would allow commercial and additional residential development in the Orton Junction expansion area. Allowing additional residential development in an area near a natural gas pipeline, as well as adding commercial activity, would increase the risk of the loss of life, injury, or loss of property from an explosion.

Impacts Specific to the UGA Modification Alternative

The UGA Modification Alternative would allow commercial development in the Orton Junction area, while removing residential land from the UGA on East Hill. This reduction of UGA area would limit future development potential in the East Hill area to low-density residential and rural uses. Most of this land is already developed for low-density residential use, so removal of the area from the Sumner UGA would have little effect on the risk of explosion in this location. Overall risk of explosion associated with the UGA Modification Alternative would therefore be only slightly lower than under the UGA Expansion Alternative.

Impacts Specific to the No Action Alternative

Under the No Action Alternative, no amendments would be made to Sumner's UGA Boundaries. Development is anticipated to occur in a manner similar to what is currently planned for under the 2004 Comprehensive Plan, at a similar level of risk of explosion as under currently forecast build-out conditions.

3.7.3 Mitigation Measures

Incorporated Plan Features

None specific to the alternatives.

Applicable Regulations and Commitments

- The International Fire Code has been adopted by the City and contains sections that apply to the storage and use of explosive and hazardous materials. In conjunction with enforcing those regulations, the East Pierce County Fire District maintains records of buildings with explosive or hazardous materials.
- The City Zoning Code, Sumner Municipal Code (SMC) 18.18 prohibits the location of "manufacturing, refining or storage of noxious, volatile, toxic or explosive products" as a principal use in the Light Manufacturing (M-1) and Heavy Manufacturing (M-2) zoning districts. These uses are also prohibited in the commercial and residential zones and, therefore, are not allowed anywhere within the city limits.

Other Potential Mitigation Measures

- The City could develop and maintain a program for mapping and monitoring the locations of explosive materials.
- The City could develop land use policies regulating development around existing sources of potential explosions.
- The City could adopt more restrictions on the "manufacturing, refining or storage of noxious, volatile, toxic or explosive products" as an accessory use by limiting quantities and areas of buildings and sites allowed to contain these types of uses.

3.7.4 Significant Unavoidable Adverse Impacts

Increased residential and commercial development and its associated infrastructure and transportation sources such as rail and trucks could increase growth in proximity to facilities that have a risk of explosion. This impact can be reduced by proper application of fire codes and ongoing monitoring. No significant unavoidable adverse impacts are anticipated with implementation of mitigation measures.

