Appendix I: Supplemental Information: Pipeline Safety
APPENDIX I. SUPPLEMENTAL INFORMATION: PIPELINE SAFETY

APPENDIX I-1: PIPELINE INCIDENTS

The two pipeline incidents that led to the passage of the Pipeline Safety Improvement Act of 2002 and the current pipeline integrity management rules are as follows:

- **Bellingham, Washington, June 10, 1999.** According to the National Transportation Safety Board (NTSB) accident report, “About 3:28 p.m., Pacific daylight time, on June 10, 1999, a 16-inch diameter steel pipeline owned by Olympic Pipe Line Company (Olympic) ruptured and released about 237,000 gallons of gasoline into a creek that flowed through Whatcom Falls Park in Bellingham, Washington. About one and one half hours after the rupture, the gasoline ignited and burned approximately one and one half miles along the creek. Two 10-year-old boys and an 18-year-old man died as a result of the accident. Eight additional injuries were documented. A single-family residence and the City of Bellingham’s water treatment plant were severely damaged. As of January 2002, Olympic estimated that total property damages were at least $45 million.

  The major safety issues identified during this investigation were excavations performed by IMCO General Construction, Inc., in the vicinity of Olympic’s pipeline during a major construction project and the adequacy of Olympic Pipe Line Company’s inspections thereof; the adequacy of Olympic Pipe Line Company’s interpretation of the results of in-line inspections of its pipeline and its evaluation of all pipeline data available to it to effectively manage system integrity; the adequacy of Olympic Pipe Line Company’s management of the construction and commissioning of the Bayview products terminal; the performance and security of Olympic Pipe Line Company’s supervisory control and data acquisition system; and the adequacy of Federal regulations regarding the testing of relief valves used in the protection of pipeline systems.” (NTSB, 2002).

- **Carlsbad, New Mexico, August 19, 2000.** Per the National Transportation Safety Board accident report, “At 5:26 a.m., mountain daylight time, on Saturday, August 19, 2000, a 30-inch diameter natural gas transmission pipeline operated by El Paso Natural Gas Company ruptured adjacent to the Pecos River near Carlsbad, New Mexico. The released gas ignited and burned for 55 minutes. Twelve persons who were camping under a concrete-decked steel bridge that supported the pipeline across the river were killed and their three vehicles destroyed. Two nearby steel suspension bridges for gas pipelines crossing the river were extensively damaged. According to El Paso Natural Gas Company, property and other damages or losses totaled $998,296.

  The major safety issues identified in this investigation were the design and construction of the pipeline, the adequacy of El Paso Natural Gas Company’s internal corrosion control program, the adequacy of Federal safety regulations for natural gas pipelines, and the adequacy of Federal oversight of the pipeline operator.” (NTSB, 2003).
References


OLYMPIC PIPE LINE COMPANY / BP PIPELINES NA INC
GENERAL CONSTRUCTION & RIGHT OF WAY REQUIREMENTS

Olympic Pipe Line Company ("OPLC"), which is operated by BP Pipelines (North America) Inc. ("BP"), is committed to environmental stewardship and maintaining the safety of its employees, contractors and the general public. The pipelines BP/OPLC operates transport various liquids at high pressure, and do so very safely each and every day. There are, however, potential hazards associated with construction or excavation work around pipelines. As a result of these potential hazards, and in compliance with the requirements imposed upon BP/OPLC as an industry regulated by the U.S. Department of Transportation and Office of Pipeline Safety, the following list of general requirements for working on the Pipeline rights-of-way has been compiled.

**General Safety Requirements**

- **Washington and Oregon Underground Utility Locating Services** "One Call" must be contacted at least 48 hours (2 business days following the placement of the call) before any construction and or excavation activities are initiated within the pipeline right of way so that OPLC may have a representative present to ensure that there are no conflicts with the pipeline. The One Call number in Washington and Oregon is “811” or, you may enter a ticket online at www.callbeforeyoudig.org. There is no cost to the third party contractor to use the One Call Notification service. However, failure to utilize the One Call service can be quite costly in terms of unnecessary risk for the contractor/excavator, their employees, innocent bystanders, personal property of others and the environment, as well as potential civil penalties and/or fines (Washington State RCW 19.122.030 and Oregon State OAR 952-001-0650.)

- To have the pipeline physically located and depth verified, please call OPLC's 3rd Party Supervisor Representative at (312) 809-3235.

- OPLC requires a representative/inspector on site when any work is being performed within ten feet (10') of the pipeline(s) or if the reach of mechanized equipment is capable of extending within ten feet (10') of the pipeline(s). Forty-eight (48) hours (2 working days) prior notice to OPLC is highly recommended for any work. Notice to OPLC does not relieve the contractor of any notification responsibility to the appropriate state One-Call System.

- OPLC requires submission of detailed construction plans and/or drawings for any work within the pipeline easement at least 10 business days in advance of construction for review and comment. Plans and drawings should be sent to Olympic Pipe Line Company, c/o BP Pipelines (N.A.) Inc., 39 S. Wacker Dr., Suite 500, Chicago, IL 60606.

- The contractor is responsible for having the pipeline location added to the construction drawings. The contractor is also responsible for taking all necessary safety precautions and will be held responsible for any damages caused to the pipeline or property as a result of their work.
Excavation Specific Requirements

- No excavation or construction activity will be permitted in the vicinity of the pipeline(s) until all appropriate communications have been made with OPLC’s field projects and engineering personnel.

- There shall be no excavation or backfilling within the pipeline right of way for any reason without a representative from OPLC on-site stating permission.

- In some instances, excavation and other construction activities around certain pipelines may be conducted safely only when the pipeline operating pressure has been reduced. Contractors are therefore cautioned that excavation which exposes or significantly reduces the cover over a pipeline may have to be delayed until the reduced pressure is achieved.

- Vacuum excavation or hand digging is required within 24-inches of the pipeline.

General Construction Activities

- The contractor shall not be permitted to transport construction materials or equipment longitudinally over the pipeline.

- Any required relocation or encasement of the pipeline(s) will be at the developer’s expense.

- Development grading should not remove any of the existing ground cover from, or add excessive fill over the pipeline(s). OPLC’s prior approval to add fill is required.

- Where it is necessary for construction equipment (i.e. tractors, backhoes, dump trucks etc.) or equipment transporting construction materials to cross the pipeline to gain access to the job site, a crossing shall be constructed at a 90 degree angle to the pipeline. The contractor will be responsible for protecting the pipeline depending on depth, soil conditions and type of equipment for temporary or permanent crossings using either fill or steel sheeting. These methods must meet OPLC’s requirements and have prior approval from our Engineering and Construction Department.

- No track type construction equipment shall be permitted to pivot or turn directly over the top of the pipeline.

- A scraper or pan type tractor shall not be used for removal of soil within ten feet (10’) of the centerline of the pipeline. Rubber tire or small track type equipment is an acceptable alternative.

- A sheepfoot roller shall not be used for compaction purposes within five feet (5’) of the centerline of the pipeline.

- No vibratory rollers shall be used within three feet (3’) of the centerline of the pipeline until the compacted cover over the pipeline has reached a depth of three and one-half feet (3 1/2)

Parking Lots, Roads, Driveways, Fences and Structures

- No permanent structures may be constructed on the pipeline right of way.

- No roads or driveways shall run parallel to the pipeline within the pipeline right of way. Prior approval is required for a road or driveway to cross the pipeline right of way. The preferred angle of crossing is 90 degrees. In no instance shall the angle of the crossing be less than 45 degrees.

- A minimum of five and one-half feet (5-1/2’) of cover is required for all road crossings, and three feet (3’) for residential driveways, however a stress factor calculation will be performed by OPLC to determine the actual amount of cover required depending on soil conditions and other circumstances. This depth of cover requirement also pertains to logging roads and other temporary access roads.

- No fence shall be constructed to run parallel to the pipeline within the pipeline right of way. Prior approval is required for all fence construction crossing the pipeline right of way. Fence posts must maintain a minimum three feet (3’) clearance off the side of the pipeline(s) when crossing the easement. The preferred angle of crossing is 90 degrees. In no instance shall the angle of the crossing be less than 45 degrees. Privacy fences may be allowed in some circumstances, but must be constructed to accommodate state and federal
requirements to allow the pipeline operator visual and/or physical access to the pipeline right of way. Such accommodation may include the installation of gates, or cyclone fencing across the right of way.

- Two feet (2') of vertical separation is required between the pipeline and any underground structure.

- Proposals for parking lot construction on the pipeline right of way are discouraged. Asphalt paving may be permitted as an exception under certain conditions with an agreement executed by the property owner and OPLC. The agreement grants OPLC the right to excavate within the pavement area for any pipeline maintenance that may be necessary in the future and acknowledges the property owner as the party responsible for the expense of pavement replacement. If a parking lot is permitted by OPLC a minimum of four feet (4') of cover will be required. However OPLC will evaluate each proposal on an individual basis, and may impose additional requirements.

- Concrete pavement is discouraged; and in most instances will not be allowed. Prior approval is required.

- A minimum of four feet (4') of cover is required for all drainage ditches.

- No structures such as manholes, catch basins, thrust blocks or fire hydrants shall be located over the pipeline. A minimum horizontal clearance of ten feet (10') is required between the structure and pipeline.

**Foreign Line or Utility Crossings**

- All foreign lines shall cross the pipeline right-of-way at, or as near to, a 90 degree angle as is feasible.

- In no instance shall the angle of the crossing be less than 45 degrees.

- In no instance shall the foreign line be placed parallel to the pipeline within the pipeline right-of-way.

- The foreign line shall cross under the pipeline with at least two feet (2) of vertical separation unless the pipeline is at a prohibitive depth. In such cases, OPLC personnel will review and evaluate the proposed crossing location to determine if it will be allowable for the foreign line to cross above.

- If the foreign line is a telecommunications cable, power cable or similar in nature, the foreign line shall be placed in Schedule 40 PVC conduit, or greater, for a linear distance extending ten feet (10') on either side of centerline of the pipeline. In the case of a power cable it shall be encased in red-dyed concrete for a linear distance of ten feet (10') on either side of centerline of pipeline.

- A utility with a cathodically protected foreign line which crosses or is placed adjacent to OPLC’s pipeline(s) must install a test point and perform interference testing between the utility and OPLC. Please contact OPLC’s Corrosion Technician at (425) 781-6975.

- Below ground warning tape shall be placed in the ditch line above the foreign line. The warning tape shall be placed approximately one foot (1') below the final surface grade/elevation. The warning tape shall extend for a linear distance of ten feet (10') on either side of the centerline of the pipeline.

**Landscape and Vegetation**

- No trees are allowed on the pipeline right of way. OPLC may permit the installation of limited landscaping and minor shrubbery plantings with a written communication. For major development, landscaping plans must first be submitted in writing to OPLC for review and approval. Any plantings that restrict efficient aerial inspection or limit access to the easement area will be considered an interference and must be addressed accordingly. Plants with intrusive root systems that could potentially grow to interfere with the pipeline are not permitted.

OPLC reserves the right to impose further stipulations or requirements consistent with each individual easement or situation. Should you anticipate any problems regarding these requirements please contact OPLC’s 3rd Party Supervisor Representative at (312) 809-3235.
APPENDIX I-3: OLYMPIC DATA REQUEST AND RESPONSES (FOR ENERGIZE EASTSIDE EIS PIPELINE RISK ASSESSMENT)

EDM Services, Inc.
March 29, 2017
Energize Eastside – OPL Data Request

SYSTEM SAFETY AND RISK OF UPSET – OPL DATA REQUEST
LEAK DETECTION, ISOLATION, SHUTDOWN CONTROLS

Please provide a detailed description of the existing leak detection system, automated systems, shut-down system and other controls being proposed. Specifically,

- How does the leak detection system operate and function?
- What is the sensitivity of the leak detection alarms? For example, for a given size release flow rate, how long does it take for the release to be recognized and sound an alarm? How long is the communication and polling cycle to activate shut down via the SCADA system?
- Where are valves located on either side, and within the line segment where the proposed overhead high voltage power lines located? How are these valves actuated (e.g., manual valves, remotely actuated, automatic shut-down, etc.)?
- In the event of a release on this segment, please describe how the release would be identified and how the segment would be isolated.

Olympic Pipe Line Company’s (“Olympic’s”) Pipeline Leak Detection System (PLDS) has been in service in the Olympic control center since the early 1990’s making Olympic an early adopter of computerized leak detection. PLDS coverage includes all Olympic meter bound main and lateral pipelines.

PLDS is a real-time pipeline simulation that detects and locates leaks by comparing a modeled packing rate to the measured flow balance in a defined pipeline section. When the difference exceeds a defined loss threshold, the software declares a warning. If the condition persists, an alarm is declared. Alarms are communicated through the SCADA alarm and event system. Olympic's enterprise SCADA System covers 60 sites over its roughly 400 miles of main and lateral pipeline segments. PLDS is a separate software package but is integrated with the SCADA software.

Olympic’s PLDS exceeds state and federal requirements for pipeline leak detection including WAC 480-75-300 ("Leak detection systems must be capable of detecting an eight percent of maximum flow leak within fifteen minutes or less").

Specific details regarding the precise type and location of Olympic’s valves and related facilities within this segment is treated as confidential information not available for public disclosure due to potential security risks. See Northwest Gas Association v. WUTC, 141 Wn.App. 98, 168 P.3d 443 (2007), rev. denied, 163 Wn.2d 1049 (2008).

PIPELINE DESCRIPTION

Please provide a detailed description of the pipeline components along this corridor. For example,

Please provide a description of the supervisory control and data acquisition system (SCADA).

See above description.
EDM Services, Inc.

March 29, 2017
Energize Eastside – OPL Data Request

Please describe the operating and emergency response procedures for the following situations: electrical power loss, loss of communications, leak response, fire response, explosion response, emergency shutdown, and any other situations deemed critical.

Olympic maintains a 24-hour Emergency Hotline (1-888-271-8880). Olympic is willing to make available for review at its offices its current manual for responding to emergencies involving its pipeline and facilities. The manual is based on the Northwest Area Contingency Plan, as approved by the Washington State Department of Ecology and the federal Pipeline and Hazardous Materials Safety Administration. Olympic also is willing to make available for review at its offices its Damage Prevention Program and Procedures.


What, if any, measures are used which exceed the minimum requirements of 49 CFR 195 to minimize the likelihood of leaks from the major causes (e.g., external corrosion, internal corrosion, 3rd party damage, operating error, design flaw, equipment failure, weld failure, etc.)? Olympic exceeds regulatory requirements, to varying degrees, in the majority of its integrity management programs.

What risks do you foresee during the construction and operation of the proposed high voltage power lines within this pipeline corridor? What mitigation is proposed to address these risks, both during construction and operation?

Pipelines and AC power lines often share the same utility corridor and standard mitigation measures have been developed within the industry to minimize any risks associated with construction and joint operation within the corridor.

In any situation in which construction requires excavation in close proximity to the pipeline there are a number of measures to minimize the risk of physical damage to the pipeline. To address the potential risk of damage caused by third-party excavations the Washington legislature enacted the “one-call” locator service law (RCW ch. 19.122). Under the one-call program, anyone planning to excavate near an underground utility is required to provide advance notice of the excavation by calling a designated central number. The affected utility is then notified and required to monitor the excavation work to ensure no damage is done. Consistent with these requirements, if a project is within 100 feet of Olympic’s pipeline, its Damage Prevention Team will meet with the construction team onsite at the start of the project and weekly thereafter to reinforce the importance of following established safety protocols. The Damage Prevention Team will also go on-site to monitor the excavation project any time equipment with the ability to reach within 10 feet of the pipeline is being used. While the relevant federal regulations generally require at least 12 inches of clearance between a pipeline and any underground structures, Olympic’s practice is to double the federal standard and ensure at least 24 inches of clearance.

1 The relevant regulation, 49 CFR 195.250 (Clearance between pipe and underground structures) provides that:
EDM Services, Inc.

March 29, 2017
Energize Eastside – OPL Data Request

The risk of damage from imposed weight loading during construction can also be reduced through monitoring by Olympic’s Damage Prevention Team, as well as engineering review of any planned equipment crossings prior to commencement of work.

There are also a number of proven practices and guidelines used by the industry to successfully mitigate potential AC interference-related-corrosion on pipelines. Olympic has a program to actively monitor and, where necessary, mitigate the impact of AC interference on its pipelines. As part of this program, AC interference is currently monitored in the segment of the pipeline at issue. AC grounding systems are commonly installed in connection with power transmission towers to safely dissipate any energy to ground, and, as the project plans evolve, Olympic will undertake an engineering analysis to assess the necessity for installation of similar systems along the pipeline.

What is the wall thickness(s), pipe grade(s), diameter, etc. of this segment(s)?

The Allen to Renton 16” line typical dimensions are 0.312 wall thickness, API 5L X52 grade, with an outside diameter of 16”. There are small sections of re-routes that may have an increased wall thickness or a higher grade.

The Allen to Renton 20” line typical dimensions are 0.250 wall thickness, API 5L X52 grade, with an outside diameter of 20”. There are small sections of re-routes that may have an increased wall thickness or a higher grade.

When was the pipeline(s) originally constructed?

The Allen to Renton 16” line was constructed in 1965.
The Allen to Renton 20” line was constructed in 1972 to 1974.

How is this line(s) cathodically protected?

The lines are cathodically protected primarily with overlapping impressed current systems.

What type of external coating(s) is installed?

The majority of the Allen to Renton 16” and 20” pipelines are coated with coal tar enamel.

When was this line(s) last hydrostatically tested? What was the test pressure? When is the next hydrotest scheduled?

Allen to Renton 20” - 1974. Tested to 1157 psi.

Any pipe installed underground must have at least 12 inches (305 millimeters) of clearance between the outside of the pipe and the extremity of any other underground structure, except that for drainage tile the minimum clearance may be less than 12 inches (305 millimeters) but not less than 2 inches (51 millimeters). However, where 12 inches (305 millimeters) of clearance is impracticable, the clearance may be reduced if adequate provisions are made for corrosion control.
EDM Services, Inc.

March 29, 2017
Energize Eastside – OPL Data Request

There are no scheduled hydrotests since we use internal inspection tools to monitor the integrity of the pipeline.

When was this line(s) last internally inspected? What type of inspection tool(s) was employed? When is the next internal inspection scheduled?

The last inspections of the Allen to Renton 16” and 20” pipelines were in April of 2014 using a high resolution deformation and hi resolution magnetic flux leakage tool. The next planned inspection is in early 2019.

What is the normal (excluding line crossing and special features) depth of cover?

Typical depth of cover is 3’ to 4’.

What percentage of the circumferential welds were radiographically inspected during original construction?

Inspections were conducted per industry requirements at the time of original construction. Radiographic inspection of circumferential welds was not industry practice at that time. Both pipeline segments were subjected to post construction hydrotests that were at least 1.25 times MOP.

Does this line segment contain any ERW pipe? If so, please provide year of manufacture and other data?

There is no ERW pipe installed within the segment at issue.

OPERATION

Please describe the normally operating parameters, including:

Please provide a list of the refined petroleum products normally transported through this pipeline(s).

Gasoline, diesel, and jet fuel.

How often is the pipeline(s) operational (e.g., percentage of the time)?

Over 95%

When in operation, what is the normal operating pressure?

Allen to Renton 16” - 500 to 800 psi
Allen to Renton 20” - 300 to 500 psi

What is the maximum operating pressure (MOP)?

Allen to Renton 16” - 1265 psi maximum discharge pressure from Woodinville Station.
Allen to Renton 20” - 928 psi maximum discharge pressure from Allen Station.

When the line is not operational, what is the pressure within this segment?

Allen to Renton 16” - 300 - 500 psi
Allen to Renton 20” - 300 - 500 psi
EDM Services, Inc.

March 29, 2017
Energize Eastside – OPL Data Request

EMERGENCY RESPONSE

What is the anticipated range of response times to various locations along this pipeline segment?

Response times will vary depending not only on location, but also by type of event and traffic conditions. Access to the pipeline along the relevant segment is quite good, which can significantly reduce response times. Members of Olympic’s Damage Prevention Team are located nearby at all times and are able to respond to certain types of events as quickly as traffic permits. During normal working hours, Olympic has qualified personnel located to the North and South of this segment at its facilities in Woodinville and Renton, respectively. Outside of normal working hours, Olympic has on-call personnel who live in close proximity to this segment. Finally, Olympic has contracted with the National Response Corporation – Environmental Services (NRCES) to respond anywhere along its pipeline system within 2 hours.

Please describe the emergency response measures to be employed should a leak occur where the refined petroleum product could migrate beyond the corridor.

Olympic maintains a 24-hour Emergency Hotline (1-888-271-8880). Olympic is willing to make available for review at its offices its current manual for responding to emergencies involving its pipeline and facilities. The manual is based on the Northwest Area Contingency Plan, as approved by the Washington State Department of Ecology and the federal Pipeline and Hazardous Materials Safety Administration. Olympic also is willing to make available for review at its offices its Damage Prevention Program and Procedures.


Please describe the emergency response procedures to be employed should an evacuation become necessary.

In the event of an evacuation on the pipeline right-of-way, local first responders and the Olympic Pipeline team would set up exclusion zones. Door to door notifications would be made to impacted homeowners. Air monitoring would be utilized and documented throughout the entirety of the incident to ensure the exclusion zones are properly identified in accordance with the conditions of the day (wind speed, direction, etc.).

ALIGNMENT SHEETS

May need to request pipeline alignment drawings for the existing OPL pipeline(s) within the overhead power line corridor to support the quantitative risk assessment. If determined needed, we will provide a follow-up request specifying for which segments.
APPENDIX I-4: PSE ENERGIZE EASTSIDE CORRIDOR SAFETY FAQ SHEET

Safety is PSE’s top priority

As the largest natural gas utility in Washington, we understand pipeline safety concerns and employ safe procedures when working near pipelines. PSE approaches every project – from the smallest natural gas service installation to the largest transmission line – with the same priority: the safety of our customers, the communities we work in, and our fellow co-workers.

For Energize Eastside, PSE will continue to follow all safety regulations to maintain safety in the corridor. This includes building and operating the project to meet strict federal standards that govern both pipeline and transmission line infrastructure.

PSE and Olympic’s infrastructure have safely coexisted in the corridor for decades

The backbone of our transmission system on the Eastside shares a utility corridor with Olympic Pipe Line Company’s (Olympic) underground petroleum pipelines. It’s been this way for more than 40 years, and co-locating utilities is encouraged by many Eastside jurisdictions.

PSE and Olympic working together

Both PSE and Olympic have a mutual interest in the continued protection and safe operation of facilities in the shared utility corridor.

We have a long history of working closely together. This close coordination ensures mutual safety of our infrastructure and of neighbors adjacent to and near the corridor.

Focus on safety in design, construction and operations

Safety is critical to Energize Eastside’s design. Newer technology and strict safety requirements allow PSE to build to the highest safety standards, which our design will meet or exceed. Our engineers are rigorously analyzing the design for Energize Eastside to ensure safe construction and operation of the line within the shared corridor.

We’re working with DNV-GL, a leading national expert in pipeline safety, to assist with developing design parameters to help ensure the safe operation of the co-located utilities. As we get to construction, our engineers will work closely with Olympic to develop a project-specific safe construction plan. Construction will entail installation of new, longer-lasting equipment, and fewer poles that will typically be farther away from the pipeline than the poles are today.

Once construction ends, PSE and Olympic’s safety coordination continues through day-to-day operations and ongoing communication.

Frequently Asked Questions

What steps will PSE and Olympic take during and after construction to keep me and my family safe?

Our engineers will work closely with Olympic on a safe construction plan that may include:

- Having an Olympic representative on-site to monitor construction activities near the pipeline
• Installing temporary fencing or other markers around the pipeline area
• Placing a temporary protective cover (e.g., steel plates) over the pipeline to mitigate excessive load from heavy equipment
• Using specialized equipment or hand-digging within close proximity to the pipeline

Having worked with Olympic for decades, PSE knows firsthand that Olympic employs stringent standard operating practices, including:
• Using a cathodic protection system to suppress corrosion
• Meeting with Olympic’s Damage Prevention Team on site at the start of the project and weekly thereafter if a project is within 100 feet of the pipeline to reinforce established safety protocols
• Requiring a Damage Prevention Team to be on site during any excavation within 10 feet of the pipeline

Once construction ends, PSE and Olympic’s safety coordination will continue through day-to-day operations. This includes ongoing communication to keep each other informed of activity in the corridor. Additionally, Olympic regularly inspects its pipeline and monitors its operation 24 hours a day.

Who regulates PSE and Olympic to ensure they are implementing safety procedures correctly?
Interstate pipelines, whether they transport natural gas or liquid petroleum products, are held to both state and federal safety regulations administered by the:
• Federal Energy Regulatory Commission
• US Department of Transportation’s Pipeline and Hazardous Materials Safety Administration
• Washington State Department of Transportation
• Washington Utilities and Transportation Commission

Are there safeguards in place if extreme weather such as earthquakes or lightning affect the corridor?
As with all of our projects, our design will meet or exceed industry standards and address seismic activity, high winds, ice and lightning. For example, to protect against lightning, our designs call for grounding the poles and using shield wires to disperse current safely and to avoid affecting the pipelines.

Can you give more examples of PSE and Olympic working together?
• In 2007 and 2008, PSE worked with Olympic to replace more than 130 poles and reframe more than 200 poles in this corridor and others.
• In 2015, PSE successfully completed more than 50 geotechnical investigation borings within the existing corridor. Half of these geotechnical borings took place in the vicinity of the Olympic pipeline.
• In June 2016, we replaced two poles adjacent to the pipelines to address an imminent safety concern created by the construction of new apartments in Newcastle. We met onsite with Olympic’s Damage Prevention Team to review construction activities to help ensure safe construction practices were followed.

Interested in learning more?
• Learn more about Energize Eastside and pipeline safety at pse.com/energizeeastside
• For information about Olympic’s safety practices, visit the Pipeline and Community Safety page at bp.com/en_us/bp-us/what-we-do/bp-pipelines/pipeline-and-community-safety.html

Thank you for your interest in Energize Eastside.

pse.com/energizeeastside  1-800-548-2614  energizeeastside@pse.com
APPENDIX I-5: ENERGIZE EASTSIDE EIS PIPELINE SAFETY
TECHNICAL REPORT (PREPARED BY EDM SERVICES)

[note – no revisions have been made to the version as presented in the Phase 2 Draft EIS; therefore, the full study is not reprinted here. See Appendix I-5 of the Phase 2 Draft EIS for the full study]
## APPENDIX I-6: PIPELINE SAFETY REGULATIONS

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal</strong></td>
<td></td>
</tr>
<tr>
<td>Hazardous Liquid Pipeline Safety Act of 1979 (Public Law 96-129)</td>
<td>Granted authorization to the U.S. Department of Transportation to develop minimum safety standards for oil and hazardous liquid pipelines.</td>
</tr>
<tr>
<td>49 CFR, Parts 190 through 199</td>
<td>U.S. Code sections that cover pipeline safety.</td>
</tr>
<tr>
<td>Pipeline Safety, Regulatory Certainty, and Jobs Creation Act of 2011</td>
<td>Increased the number of pipeline inspectors and mandated a variety of new safety measures. Required studies of pipeline safety.</td>
</tr>
<tr>
<td>(Public Law 112-90)</td>
<td></td>
</tr>
<tr>
<td>Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2016</td>
<td>Reauthorized the Pipeline Safety, Regulatory Certainty, and Jobs Creation Act of 2011; reaffirmed mandates of the 2011 act; and established new mandates.</td>
</tr>
<tr>
<td>Pipeline Safety Improvement Act of 2002 (CFR 192 Subpart O, Pipeline</td>
<td>Strengthened federal pipeline safety programs, state oversight of pipeline operators, and public education regarding gas pipeline safety. Required gas pipeline operators to conduct a risk assessment and implement integrity management programs for pipelines in high consequence areas.</td>
</tr>
<tr>
<td>Integrity Management)</td>
<td></td>
</tr>
<tr>
<td>Oil Pollution Act of 1990 (49 CFR Part 194)</td>
<td>Expanded EPA’s oversight of oil storage facilities and vessels. Required some oil storage facilities to prepare Facility Response Plans.</td>
</tr>
<tr>
<td>2006 Pipeline Inspection, Protection, Enforcement and Safety Act (Public Law 109-468)</td>
<td>Created state grant system to improve damage prevention programs, and established the national “Call Before You Dig” program. Required a review of the adequacy of federal pipeline safety regulations related to <em>internal corrosion</em> control.</td>
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<tr>
<td>Regulation</td>
<td>Summary</td>
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<tr>
<td><strong>State</strong></td>
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<tr>
<td>WAC, Title 480, Chapter 480-75, Hazardous Liquid Pipelines</td>
<td>Adopted the federal hazardous liquids pipeline regulations.</td>
</tr>
<tr>
<td>Underground Utilities – Damage Prevention Law (RCW 19.122)</td>
<td>Established a comprehensive damage prevention program. Required pipeline companies, underground facility owners, and excavators to participate in protecting the public health and safety when excavating.</td>
</tr>
<tr>
<td>WAC 173-182 – Oil Spill Contingency Plan</td>
<td>Established covered vessel and facility oil spill contingency plan requirements, drill and equipment verification requirements, primary response contractor standards, and recordkeeping and compliance information.</td>
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<tr>
<td><strong>Local</strong></td>
<td></td>
</tr>
<tr>
<td>Redmond Zoning Code (RZC) 21.26.040 Setback Requirements</td>
<td>Established minimum setback requirements from the hazardous pipeline corridors. Purpose is to minimize risk to public health, safety, and welfare due to hazardous liquid pipelines. No construction or expansion of structures is allowed in the pipeline corridor. No setback is required for utilities for areas along the hazardous liquid corridor, but the Director of Planning and Community Development (or their designee) may require a setback based on site-specific conditions.</td>
</tr>
<tr>
<td>Renton Municipal Code (RMC) 4-3-070 (Pipeline Notice)</td>
<td>Requires notice on title for development within 500 feet of liquid or gas pipelines.</td>
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