



STATE OF WASHINGTON

UTILITIES AND TRANSPORTATION COMMISSION

1300 S. Evergreen Park Dr. S.W., P.O. Box 47250 • Olympia, Washington 98504-7250

(360) 664-1160 • TTY (360) 586-8203

Sent Via email and Electronic Return Receipt Mail

Sept. 8, 2017

Gerald Maret
President
BP Pipelines (North America) Inc.
US Pipelines & Logistics
M.C. 9S
30 S Wacker Drive
Chicago, IL 60606

Dear Mr. Maret:

**RE: Incident Investigation (NRC No. 1163165): 4420 180th Street East, Tacoma, WA
Nov. 2, 2016 - Olympic Pipe Line-South (Inv. No. 7192)**

Staff from the Washington Utilities and Transportation Commission (staff) conducted an incident investigation into the refined petroleum product release which occurred at 4420 180th Street East, Tacoma, WA, on Nov. 2, 2016. The incident was reportable due to an unintentional release of refined petroleum product.

Staff concluded that the release was due to a leaking control valve. No apparent violations were noted as a result of this investigation, therefore this investigation will be closed as of Sept. 8.

Staff thanks Olympic Pipe Line-South personnel for their professionalism and cooperation during this inspection.

If you have any questions, or if we may be of any assistance, please contact Anthony Dorrough at (360) 664-1318.

Sincerely,

Sean C. Mayo
Pipeline Safety Director

cc: Jim Bruen, DOT Team Leader-Programs

UTC Incident Investigation Form

Notification ID:	3079	Investigation ID:	7192
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Inspector Name:	Anthony Dorrough
Date Report Submitted to Chief Engineer:	September 7, 2017
Date Report Reviewed & Approved by Chief Engineer:	September 7, 2017, Joe Subsits

Operator:	Olympic Pipeline Company
District/Unit:	Olympic Pipeline South
Locations:	4420 180th St E
Incident Dates:	November 2, 2016

Description:
Olympic Pipeline Company (Olympic) reported a release of product (gasoline) at the Tacoma Station. The release was discovered at 16:50 and appeared to have come from a control valve. The station was put on bypass while they investigated and then later shutdown when it was confirmed in order to make repairs. A repair of the control valve was completed on 11/3 at 13:00 (photos #2-4) and the station brought back online at 13:31. An investigation into the root cause of the leak was ordered.
Facts/Chronology of Events:
<p>16:50- During a security loop of the Tacoma station a Field Specialist detected an odor coming from a containment area near the mainline piping.</p> <p>16:55- Contacted Control Room and had them drop pressure to pumps in order to investigate further. Detected a substance on a control valve, performed litmus test and confirmed substance was product (diesel and gasoline). Had Control isolate the valve and after pressure was bled off to the sump noted drips coming from the bonnet of the control valve.</p> <p>17:28- Estimated the amount of release and believed to be approx. [5] gallons.</p> <p>17:58- Team Lead notified authorities including WUTC.</p> <p>18:30- Depart of Ecology (DOE) arrives at Tacoma Station.</p> <p>19:00- DOE leaves Tacoma Station.</p> <p>21:00- Olympic performed preliminary pump out and pressure wash of the containment area.</p> <p>11/3---</p> <p>6:30- A comprehensive leakage volume calculation was performed, the result was the determination that [11.43] gallons of total product had leaked.</p> <p>8:00- After opening up the control valve Olympic confirmed the discovery of a cracked gasket and broken O-ring.</p>

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10:30- WUTC Staff (Dorrough/Anderson) arrive at Tacoma Station.

13:00- Repairs completed on the control valve.

13:13- Contractor performs final power wash and cleanup of the containment area.

13:33- Mainline returned to normal operation.

Bolded times are approximate

Tacoma Station Operating Information

- Tacoma Station operates as a pumping station on the Renton-Portland 14-inch mainline and pumps product south to the Portland area. The station is monitored and controlled by the Renton Control Center (figure).
- Mile Post – 142 - Elevation – 407
- Line Fill – 10,000 barrels from Tacoma Junction
- Estimated pressure at the point and time of the incident : 1,269 psig
- Maximum pressure at the point and time of the incident: 1,314 psig
- Function of the pipeline: .20% SMYS regulated trunk-line/transmission
- Formula used for volume: $\text{Gal} = 0.624 (\text{Area}) \times \text{Thickness} (\text{in inches}) \times \text{Area} = 1.832 \text{ Sq. Ft. (concrete vault dimension) Thickness} = 254 \text{ microns or } 0.01 \text{ inches} - \text{Gallons} = [11.43]$

Tacoma Station Control Valve Information

Control Valve: ANSI 900 ball valve (V-1808) with Thunderco actuator located downstream of the second unit to control the stations suction and discharge pressures. Control valve will automatically control for a minimum suction pressure.

- Suction pressure = 60 psig
- Discharge pressure = 1314 psig
- Last maintenance record = 03/02/2016 (annual schedule)
- Control set point = 1,445
- O-ring/Gasket material = Material other than carbon steel

Estimated Costs

Product lost = \$25.00

Property damage & repairs = \$4,200.00

Causes/Contributing Factors:

Equipment failure and resulting damage

A Failed O-ring and Gasket caused the product to leak from a control valve.

A root cause investigation which included the manufacturer, was ordered shortly after the incident in 2016 and completed sometime in June of 2017. The results of the investigation were inconclusive as to the failure of the O-ring which is believed to have caused the failure of the gasket. They could find no indication of any type of systemic problem with the O-ring or gasket.

Regulatory Analysis/ Violations:

The following records were obtained as part of the investigation and reviewed.

- 03/02/2016 Control valve (V1808) Actuator maintenance record (WO#6155939)
- 11/03/2016 Operator qualifications (OQ) Field Technician/Shannon Ridge
- 11/30/2016 Federal Accident Report – Hazardous liquid pipeline systems

No violations of pipeline safety code were noted upon review.

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Procedures Review

- OMER manual section 5.99.17
 - D. Monitoring and Control
 - 1. Renton Control Center (RCC) monitors and controls Tacoma Station with a PLC and dual communication path using frame relay and satellite with SCADA system.
 - H. Abnormal Operations
 - 4. Combustible Gas Detector - If the alarm point is reached the Renton supervisory alarms and logs Hazardous Tacoma Station Gas Detector (10% LEL) Alarm, Station Lockout. The Controller will contact the facility and/or the last employee known to be at the facility. If the employee cannot be reached the Controller will notify 911.

The volume of the leak was below leak detection thresholds.
No violations of pipeline safety code were noted upon review.

Code Compliance Review

- 49 CFR 195.50 Reporting Accidents
 - b. Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 cubic meters),
- 49 CFR 195.420 Valve Maintenance
 - b) Each operator shall, at intervals not exceeding 7-1/2 months, but at least twice each calendar year, inspect each mainline valve to determine that it is functioning properly.
- WAC 480-75-300 Leak Detection
 - 1) Pipeline companies must have a leak detection procedure and a procedure for responding to alarms. The pipeline company must maintain leak detection maintenance and alarm records.
- WAC 480-75-6 Incident Reporting
 - 1) Each hazardous liquid pipeline company must give telephonic notice to the Commission within two hours of discovery of an incident involving that company's pipeline, such as a release of a hazardous liquid that results in:
 - d) Spills of five gallons or more of product from the pipeline;

No violations of pipeline safety code were noted upon review.

Follow up/ Recommendations: Staff had no follow up or recommendations at this time.

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Failed O-Ring and Gasket

