#2571

11-15-12P12:29 RCVD

POST INSPECTION MEMORANDUM

Inspector: Kuang Chu, UTC
Reviewed: Joe Subsits, UTC
Peer Reviewed: RR
Follow-Up Enforcement: No Violation ✓
~~PCP* PCO* NOA WL LOC~~
Director Approval* Chris Hoidal

Date: September 3, 2012

Operator Inspected: Olympic Pipe Line Company **OPID:** 30781 **Region:** Western

Unit Address:
2201 Lind Ave. SW, Suite 270
Renton, WA 98055

Unit Inspected: Olympic Pipe Line - North
Unit ID: 925
Unit Type: Interstate Hazardous Liquid
Inspection Type: I01 – Unit Inspection, I07 – IMP Field Verification & Follow-up, and I08 - OQ Protocol #9 Field Verification
Record Location: Renton, WA
Inspection Dates: August 20 – 24, 2012
AFOD: 5 (I01-4, I07-0.5, I08-0.5)
SMART Activity Number: 141578

Operator Contact: Jim Bruen
Phone: 630 536-2535 **Fax:** 630 420-5519 **Emergency:** 888-271-8880

Unit Description: The unit consists of a 5-mile long 16" line transporting refined petroleum products from BP Cherry Point refinery to the Ferndale Pump Station. At the Ferndale Pump Station, the pipeline receives additional products from Phillips 66 refinery. The 16" line runs southward for 37.5 miles from Ferndale Pump Station to Bayview Products Terminal, then continues 1.2 miles to Allen Station. At Anacortes, the station receives refined products from Tesoro refinery and Shell refinery. A 9-mile long 16" line transports the refined products from Anacortes to Bayview Products Terminal and continues to Allen Station. A 20" line runs from Allen Station to Renton Station for a distance of 75.5 miles. A 16" line runs 49.2 miles from Allen Station to Woodinville Station and continues south for 26.3 miles to Renton Station.

Facilities Inspected: The pump stations at Cherry Point, Ferndale, Anacortes, Allen, Woodinville, and Renton were inspected. The pump station inspections included a review of the firefighting equipment, mainline pumps, atmospheric corrosion, facility security, signs, valve maintenance and security, launchers and receivers, pipe supports, and pressure controlling devices. The Bayview Products Terminal was also inspected. The breakout tanks at Bayview Products Terminal, Allen Station, Anacortes Station, and Renton Station were inspected. The

right-of-way (ROW) inspection included ROW condition, mainline valves, rectifiers, CP test stations, casings, line markers and warning signs.

Persons Interviewed:

Persons Interviewed	Titles	Phone No.
Jim Bruen	DOT Compliance Advisor	(630)-779-6994
Kurt Hayashida	NW E&M Team Leader	(425)-226-8881
Ken Carlton	Central Area Team Leader	(425)-235-7711
James Fraley	Damage Prevention Team Leader	(360)-957-0203
Dennis Johnston	North Team Leader	(360)-815-0345

Probable Violations/Concerns: There are two concerns as follows:

1. **49 CFR §195.432 Inspection of in-service breakout tanks.**

(b) Each operator must inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to API Standard 653 (incorporated by reference, see § 195.3).

API 653 6.3 Inspections from the Outside Of The Tank
6.3.1.3 This routine in-service inspection shall include a visual inspection of the tank's exterior surfaces. Evidence of leaks; shell distortions; signs of settlement; corrosion; and condition of the foundation, paint coatings, insulation systems, and appurtenances should be documented for follow-up action by an authorized inspector.

Finding(s):
The seal between the bottom of the chime and concrete ring wall for breakout tank T-117 in Anacortes failed at several locations. This allows rain water to be trapped under the chime and can lead to corrosion. The sealant was injected under the chime a few years ago and it failed again. A suitable sealant with proper installation procedures would be required to assure a long lasting application.

Post inspection notes: The failed seal under the entire chime was removed and a new sealant was applied on 8/28/2012. Several photos were taken and forwarded to the inspector for records.

No CTC CK

2. **49 CFR §195.430 Firefighting equipment.**
Each operator shall maintain adequate firefighting equipment at each pump station and breakout tank area. The equipment must be:
(a) In proper operating condition at all times;

Finding(s):
The monthly inspection tags for one portable fire extinguisher at Allen Station and one at Bayview Products Terminal were missing. The monthly inspection tag for one portable

fire extinguisher at Bayview Products Terminal was not marked for the month of July 2012.

Post inspection notes: The missing monthly inspection tags at Allen Station and Bayview Products Terminal were reattached to the fire extinguishers on August 27 & 28, 2012. The missed marking for the month of July for one fire extinguisher at Bayview Products Terminal was remarked as all the fire extinguishers were inspected by an independent inspector in July 2012.

No citc CH

Follow up on the history of prior offenses that are still open:

Prior Offenses (for the past 5 years)		
CPF #	**What type of open enforcement action(s)?**	**Status of the regulations(s) violated (Reoccurrence Offenses, Implement a NOA Revision, Completion of PCO or CO, and etc…)**

Recommendations: Continue to inspect this unit every other year.

Comments: The thermal relief valve (TRV) for the 20" pig launcher at the Allen Station was erroneously reset to 925 psi in 2010 while the system MOP is 928 psi. The frequent relief caused the piping to vibrate. The sampling port failed on 3/31/2012 and the pressure gage failed on 4/1/2012 as a result of vibration. Both incidents caused spills of product from the system. The root cause analysis identified the wrong set point for the TRV as the primary reason of the failure and subsequent spills. The set point was reset to 1.06 times of MOP (928 psi) and is now at 984 psi. The TRV will open only under shut-in condition while the system is under no-flow condition and the product temperature is elevated due to radiation from sun.

Attachments:

- Field data collection form
- Western Region Unit Information

Version Date: 5/5/08

Field Data Collection
(2012 Standard Inspection)

Company: Olympic Pipe Line Company

Unit: North

Pipe-to-Soil potential readings and other items.

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/22/2012	**Cherry Point Pump Station** 16" Incoming line from the Cherry Point Refinery Rectifier at the station (#10)	-0.908		Rectifier DC output: 25.39 V; 10.3 A
8/22/2012	Rail road crossing outside of Cherry Point Station	-2.846	-0.589	
8/22/2012	Rectifier at Alder Grove Road outside of the Cherry Point Pump Station			Rectifier DC output: 3.16 V; 2.9 A
8/22/2012	Alcoa Intelco Plant check valve	-1.719		The 16" line is bonded with 24" crude oil line & 6" butane line.
8/22/2012	Rectifier outside of the Alcoa Intelco Plant	-2.030		This rectifier is an automatic rectifier synchronized with current output to the ground by the Intelco Plant. It was down during the field inspection.

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/22/2012	**Ferndale Pump Station**			
	Rectifier #22 in Ferndale (For pipeline)			Rectifier DC output: 38.86 V; 1.29 A
	16" incoming line from Cherry Point booster pumps	-1.675		
	Meter run	-1.482		
	Check valve	-1.946		
	16" launcher to Bayview	-2.060		
	Ferndale Station Rectifier			Rectifier DC output: 21.76 V; 6.00 A
8/22/2012	MP 7 (16")	-1.467	-0.507	Rural road The casing was not shorted.
8/22/2012	Guide Meridian Street crossing in Bellingham	-1.720	-0.634	The casing was not shorted.
8/22/2012	Lakeway Drive in Bellingham at MP 16	-1.795	-0.368	The casing was not shorted.
8/22/2012	Rectifier at Samish Road			Rectifier DC output: 41.37 V; 2.61 A
8/22/2012	MP 34 block valve at Bow, WA	-1.754		

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/22/2012	**Allen Station (MP37.3)**			
	Station rectifier #50			Rectifier DC output: 7.16 V; 7.20 A
	Mainline rectifier #55			Rectifier DC output: 21.23 V; 5.00 A
	16" line from Ferndale	-1.684		
	16" line to Woodinville	-1.372		
	20" line to Renton	-1.641		
	Breakout Tank T-101	Tank CP on outer edge of chime -1.400 (E) -1.534 (W) -1.728 (N) -1.580 (S)		The tank was inspected and it appeared to be in good working condition.
	Railroad crossing outside of the station fence			
	16" line	-1.651	-0.486	
	20" line	-1.711	-0.494	
				The thermal relief valve (TRV) for the 20" launcher at the Allen Station was removed from the line and tested in the shop during the inspection. The set point was 984 psi and it opened at between 980 psi and 990 psi. The test was successful. The set point for this TRV was previously set by mistake at 925 psi while the system MOP is at 928 psi. The frequent opening of the TRV and the vibration of the piping caused the sampling port to fail on 3/31/2012 and pressure gage to fail on 4/1/2012 resulting in product spills.

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/23/2012	**Bayview Products Terminal**			
	Rectifier #428			Rectifier DC output: 12.04 V; 4.5 A
	Rectifier B for T-204/205/209			Rectifier DC output for T-205/209: 14.62 V; 5.64 A For T-204: 14.40 V; 7.4 A
	Breakout tank T-209	-1.417 (W) -1.647 (S)		No buried permanent half cell for this tank. The readings were taken on the chime.
	T-205	-1.084 (center of tank) -0.984 (half way)		Two permanent buried half cells
	T-206	-1.017 (center of tank) -0.917 (half way)		Two permanent buried half cells
	T-202	-1.494 (chime)		There are 2 buried half cells with bad wire connection.
	T-203	-1.025 (center)		One permanent buried half cell.
	T-204	-1.321 (center) -1.679 (chime)		One permanent buried half cell.
8/23/2012	Anacortes Lateral Main-Line Valve (MLV) at MP 5	-1.398	-0.466	The valve station has no fence, but with guard rail and chain locked. The valve was partially operated with no difficulty.
8/23/2012	Anacortes Lateral MLV at MP 2.3			The MLV is in a vault and appeared to be in good working condition.

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/23/2012	**Anacortes Station**			
	16" Incoming line from Shell & Tesoro refineries	-0.995 -1.424		
	Rectifier #60 for station piping			Rectifier DC output: 21.09 V; 2.19 A
	Rectifier #70 for pipeline			Rectifier DC output: 16.11 V; 3.18 A
	Meter run	-1.643		
	Pig launcher for 16" line to Bayview	-1.331		
	Breakout tank T-117			The seal between the bottom of chime and concrete ring wall failed at several locations. Sealant was injected at this space after the inspection in 2008. Proper sealant and installation procedures should be used for a long lasting application. Post inspection notes: The existing seal under the entire chime was removed and a new sealant injected on 8/28/2012.
8/23/2012	Main line valve station at MP 46 in Conway for Allen to Renton segment			
	Rectifier #95			Rectifier DC output: 4.06 V; 5.2 A
	16" line 20" line	-1.782 -1.754	-0.553 -0.541	These two lines are bonded.

Date	Location	Pipe/Soil (Volts)	Casing (Volts)	Comments
8/23/2012	Main line valve station at MP 56 in Stanwood for Allen to Renton segment Rectifier #100 16" valve stem 20" valve stem	 -3.43 -1.414		 Rectifier DC output: 54.17 V; 2.5 A The 20" valve was partially operated without difficulty.
8/23/2012	MP 65 for Allen to Renton segment 16" line	 -1.393	 -0.311	
8/23/2012	**Woodinville Pump Station** Station rectifier Pipeline rectifier 16" Incoming line 20" Incoming line	 -1.566 -2.416		 Rectifier DC output: 25.50 V; 0.76 A 94.3 V; 3.14 A A short section of about 30 feet of 16" line with readings of -0.712/-0.794 due to shielding problem in the station. Additional anodes will be installed shortly and monitored for improvement.
8/23/2012	**Renton Station** Breakout tank T-116 chime	 -1.408 (E) -1.244 (N)		The station was inspected in June 2012 during intrastate laterals inspection except for breakout tank T-116. The tank shell bulging appeared to be the same as during the Integrated Inspection in November 2010. The seal under the chime appeared to be in good condition and no cracks were found.

Western Region Unit Information

Inspector or State Office: Kuang Chu/WA

SMART Activity # 141578

Unit ID: 925

Unit Name: Olympic Pipe Line - North

Operator ID: 30781

Operator Name: Olympic Pipe Line Company

Unit Boundaries

Description:	Device:	Latitude:	Longitude:
The unit consists of a 5-mile long 16" line from BP Cherry Point Refinery to the Ferndale Station. The 16" line runs southward for 37.5 miles from Ferndale Station to Bayview Products Terminal, then continues 1.2 miles to Allen Station. A 9-mile long 16" line runs from Anacortes to Bayview Products Terminal, then continues to Allen Station. A 20" line and a 16" line run from Allen Station to Renton Station for a distance of 75.5 miles.			

Pre-Inspection

The information collected and documented here is in addition to other pre-inspection efforts [pulling unit summaries, SRCR's, Annual Reports, Accident/Incident Reports, previous PIM, Post-Inspection OQ & IMP reports, previous and outstanding enforcement actions, etc.]

On 3/31/2012 the sampling port on the 20" launcher at the Allen Station failed and released about 84 gallons of diesel (NRC #1007393). The pipeline was shut down for about 12 hours for repairs and cleanup. All released product drained to the concrete containment area and sump. The next day, the thermal relief valve (TRV) at the same launcher opened and closed rapidly (chattering), causing the pressure gage to fail due to vibration fatigue. The failure of the pressure gage caused a release of 10 gallons of diesel (NRC #1007458) to the concrete containment and sump. The piping associated with the pressure gage was subsequently revised to alleviate this type of failure in the future. The MOP of the system is 928 psi. The set point for the TRV was raised from 925 psi before the incident to 1.06 times MOP (984 psi).

Baseline Information

1) If accidents or incidents have occurred in this unit, what has the operator done to prevent recurrence? *(select all that apply)*

☐ Added Equipment ☐ Procedural Change ☐ Engineering Barriers Added

☐ Removed Equipment ☐ Additional Training ☒ Other

Describe: Adjusted TRV set point.

2) Will these actions adequately mitigate threats? ◉ Yes ○ No

Please Explain:

3) Have any abnormal events occurred in this unit? ○ Yes ◉ No

Describe Operator's Response:

4) Commodity Transported:

Liquid 1: Refined and/or Petroleum Pro Gas 1:

Liquid 2: Gas 2:

5) Year of Original Installation (yyyy): 1965 Pipe specification (e.g. API 5L, ASTM D2513) API 5L

6) Normal Operating Pressure (psig), min: 580 max: 1320 % SMYS, max: 65

7) MOP/MAOP (psig), min: 713 max: 1428 Changes in MOP/MAOP in previous year: ○ Increase ○ Decrease ◉ None

8) Seam Type: HF-ERW, LF-ERW, Seamless

9) Coating Type: Coal Tar

10) Overall Coating Quality: ○ Poor ○ Fair ◉ Good Coating Improvement Efforts: ○ Yes ◉ No

Describe:

11) Potential for AC Interference? ◉ Yes ○ No Has operator tested for stray current? ◉ Yes ○ No

12) Parallel Construction/Crossing? ◉ Yes ○ No Explain: 16" & 20" Ferndale to Allen Station

13a) [Gas Only] Is there a monitoring program for liquids? ○ Yes ○ No

Method:

Frequency:

13b) [Liquid Only] Are there Dead Legs? ◉ Yes ○ No

Explain: Active Facility Inspection Program (FIP). No mainline dead legs.

14) [Liquid Only] Number of cycles: 204 per ○ Day ○ Week ◉ Month

Pressure range (psig): 1 to 1460 psi; with over 90% of cycles below 500 psi.

15) Has equipment been deleted/added that changed the hydraulic profile of this line? ○ Yes ◉ No

Explain:

16) Level of automation: ○ Manual Control ○ Local/SCADA ◉ Remote/SCADA

17) Total unit mileage: 210

18) HCA-Affecting Mileage (% of total mileage):

High Population Area (%):	46
Other Population Area (%):	50
Drinking Water USA (%):	52
Ecological Resource USA (%):	58
Commercially Navigable Waterway (%):	18

19) Indicate the year of the most recent tool run and summarize results, including digs:

Tool Type	Year	Results Summary
Combination Tool	2009	One Immediate Condition; Two 180-day Condition

Post-Inspection Information

20) Using your engineering judgement, describe how well is the manager addressing this unit's threats:

Corrosion Specific:	○ Poor	○ Fair	◉ Good
Equipment Specific:	○ Poor	○ Fair	◉ Good
Excavation Specific:	○ Poor	○ Fair	◉ Good
Human Error Specific:	○ Poor	○ Fair	◉ Good
Material/Weld Specific:	○ Poor	○ Fair	◉ Good
Natural Force Specific:	○ Poor	○ Fair	◉ Good
Overall:	○ Poor	○ Fair	◉ Good

Additional Assessments: