POST INSPECTION MEMORANDUM

Inspector: Kuang Chu/UTC
Reviewed: David Lykken/UTC
Reviewed: Tom Finch/ PHMSA
Follow-Up Enforcement: WL
Director Approval* _____

11/6/09 Resubmitted

Date: November 2, 2009

Operator Inspected: Kinder Morgan Canada Inc. **OPID:** 19585 **Region:** Western
Trans Mountain Pipeline
(Puget Sound) LLC

Unit Address:
Trans Mountain Pipeline (Puget Sound) LLC
Laurel Station
1009 East Smith Road
Bellingham, WA 98226

Unit Inspected: Trans Mountain Pipeline
(Puget Sound) LLC **Unit ID:** 285
Unit Type: Interstate Hazardous Liquid (crude oil)
Inspection Type: I01 – Standard Inspection, I07 – IMP Field Verification, & Follow up, I08 – OQ Field Verification
Record Location:
Laurel Station
1009 East Smith Road
Bellingham, WA 98226
Inspection Dates: 9/21/2009 – 9/25/2009
AFOD: 5 (I01-4.0, I07-0.5, I08-0.5)
SMART Activity Number: 123860

Operator Contact: Patrick Davis
Phone: (360) 398-1541 **Fax:** (360) 398-7432 **Emergency:** 1-888-876-6711

Unit Description: This pipeline system from Canada crosses the Canada-United States border to supply crude oil to the Conoco-Phillips refinery at Ferndale and was constructed in 1954. The pumping capacity is provided by Sumas Pump Station in Canada and by the two new pumps in the facility built at the Laurel Station in 2008. In 1955, the pipeline was extended to Anacortes to supply crude oil to Shell and Tesoro refineries. In 1971, the pipeline system was extended to Cherry Point to supply crude oil to BP Cherry Point refinery. In total, 63.2 miles of pipeline was constructed in the State of Washington. The pipeline system can be broken down as follows:

- 15.3 miles of 20" pipeline between the Canada – US border to Laurel.
- 11.6 miles of 16" pipeline between Laurel Station and Ferndale Scraper Trap Station.

- 27.6 miles of 20" pipeline between Laurel Station and Burlington Scraper Trap Station.
- 9.0 miles of 16" pipeline between Burlington Scraper Trap Station and Anacortes Meter Station.

Facilities Inspected: The field inspection included Laurel Station, Ferndale Station, Burlington Scraper Trap Station, and Anacortes Meter Station. Portions of the pipeline right-of-way and several mainline valves were inspected and some manual valves were partially operated. All the cathodic protection test stations on Manley Road were inspected and pipe-to-soil potentials were taken. The breakout tanks T-170 and T-180 at Laurel Station, T-130 at Ferndale Station, and T-7 inside Shell refinery in Anacortes were inspected.

Persons Interviewed: Patrick Davis, Supervisor, Corporation
Terry DeLong, Manager, Integrity Program & Risk Engineering
Adam Lind, Operations Engineer

Probable Violations/Concerns:
There were two probable violations for tank T-7 as follows:

§195.432 Breakout tanks.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

4.3.1 Routine In-Service Inspections

4.3.1.3 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.

Findings:
During the field inspection it was noticed that there were two probable violations as follows:

1. The mastic along the external chime area has deteriorated. This allowed the water to get under the chime to create corrosion on the chime.

2. The drainage around the tank and inside the dike area was uneven which allowed the rain water to collect on one side of the tank. Depending on the water level, the chime could be submerged in water during the rainy season.

Others:

During the review of the operator's O&M manual, it was noticed that the following three items were not included in the manual:

- **§195.559 What coating material may I use for external corrosion control? Coating material for external corrosion control under Sec. 195.557 must--**

  (a) Be designed to mitigate corrosion of the buried or submerged pipeline;
  (b) Have sufficient adhesion to the metal surface to prevent under film migration of moisture;
  (c) Be sufficiently ductile to resist cracking;
  (d) Have enough strength to resist damage due to handling and soil stress;
  (e) Support any supplemental cathodic protection; and
  (f) If the coating is an insulating type, have low moisture absorption and provide high electrical resistance.

  Post Inspection Notes: These requirements for coating material were added to the operator's "External Coating of Buried Piping" (TMPSR-MECH-430B, Revision B, Sept. 28, 2009) after the inspection.

- **§195.579 What must I do to mitigate internal corrosion?**

  (d) Breakout tanks. After October 2, 2000, when you install a tank bottom lining in an aboveground breakout tank built to API Specification 12F, API Standard 620, or API Standard 650 (or its predecessor Standard 12C), you must install the lining in accordance with API Recommended Practice 652. However, installation of the lining need not comply with API Recommended Practice 652 on any tank for which you note in the corrosion control procedures established under Sec. 195.402(c)(3) why compliance with all or certain provisions of API Recommended Practice 652 is not necessary for the safety of the tank.

  Post Inspection Notes: The reference to API 652 for tank bottom lining for breakout tanks was added to the operator's "Relief Tank" (TMPSR-MECH-010, Revision B, September 28, 2009) after the inspection.

- **§195.264 Aboveground breakout tanks.**

  (b) After October 2, 2000, compliance with paragraph (a) of this section requires the following for the aboveground breakout tanks specified:

  (1) For tanks built to API Specification 12F, API Standard 620, and others (such as API Standard 650 or its predecessor Standard 12C), the installation of impoundment must be in accordance with the following sections of NFPA 30:

  (i) Impoundment around a breakout tank must be installed in accordance with section 4.3.2.3.2

Post Inspection Notes: The reference to NFPA 30 for the installation of impoundment was added to the operator's "Relief Tank" (TMPSR-MECH-010, Revision B, September 28, 2009) after the inspection.

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:
Maintain normal inspection cycle.
Issue a warning letter for PV's noted.

Comments:
None.

Attachments:
- Form 3 Standard Inspection Report of a Liquid Pipeline Carrier
- Form 10 Breakout Tank Inspection Form
- Form 15 Operator Qualification Field Inspection Protocol Form
- Form 17 Supplemental SCC Questionnaire
- Form 19 Hazardous Liquid IMP Field Verification Inspection
- Field Data Collection Form

Version Date: 5/5/08