

Docket PG-030080, King County
Docket PG-030128, Pierce County
Docket PG-030129, Kittitas County

CERTIFIED MAIL

March 2, 2004

Jim Hogan
Manager Standards and Compliance
Puget Sound Energy
PO Box 90868 MS: XRD-LL
Bellevue, Washington 98009-0868

Dear Mr. Hogan:

Subject: Puget Sound Energy – 2003 Standard Inspections for King, Pierce, and Kittitas Counties

Commission Pipeline Safety staff (Staff) conducted natural gas standard inspections for King, Pierce, and Kittitas counties for Puget Sound Energy's (PSE) facilities. The inspections included a review of PSE's procedures, records, and operation & maintenance activities. In King and Pierce Counties, there were many probable violations. Please note that WAC 480-93-223 states that "Any gas company....is subject to a civil penalty not to exceed twenty-five thousand dollars for each violation for each day that the violation persists." There were no probable violations found in Kittitas County.

It should not be assumed that this inspection detected all apparent code violations at this time. It is incumbent upon PSE to review all of its facilities and operations to determine compliance with Commission laws and rules.

Please respond to this letter by April 5, 2004 indicating how each item of probable violation will be corrected. Some of the probable violations found in PSE's 2003 standard natural gas inspection are related to cathodic protection of unprotected

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metallic pipelines. Staff will contact PSE once the response letter is received to discuss the unprotected metallic pipe probable violations and how they may relate to PSE's Bare Steel Replacement Program.

Please direct all inquiries to the attention of Scott Rukke for Pierce county and Patti Johnson for King and Kittitas counties at the address listed above or by telephone at (360) 664-1241 or (360) 664-1266, respectively. Please refer to docket numbers PG-030080 (King County), PG-030128 (Pierce County) and PG-030129 (Kittitas County) in any future correspondence regarding this report.

Thank you for your cooperation and interest in pipeline safety.

Sincerely,

Alan E. Rathbun
Pipeline Safety Director

Enclosures (2) Probable Violation Report and Areas of Concern

cc: Roque Bamba, Standards Program Coordinator
George Pohndorf, Director, Rates & Regulation
Sue McLain, Senior Vice President, Operations

The Washington Utilities and Transportation Commission (Commission) has the authority to enforce the minimum safety regulations per Chapter 480-93 of the Washington Administrative Code (WAC) pertaining to the construction, maintenance and operation of pipelines transporting natural gas in the state of Washington. In addition, the Commission adopts the Code of Federal Regulations (CFR) Title 49, Part 191 and 192.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
2003 Standard Natural Gas Pipeline Safety Inspection of
King, Pierce and Kittitas Counties
Probable Violation Report For Puget Sound Energy

The following probable violations of WAC 480-93, which adopts 49 CFR Part 192, were noted as a result of the inspection of PSE facilities located in King, Pierce and Kittitas counties.

1. **49 CFR 192.13 General**

(c) *Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.*

Please note that all other 192.13 probable violations are noted following each probable violation in this report.

Finding A - King County

PSE's operations and maintenance manual (O&M) section 2600.1200 5.2 states, "Test leads shall be terminated only in a CP test box." At the time of PSE's 2003 inspection on Vashon Island, where the two 8-inch, 250 psig pipelines transport natural gas from Vashon Island under the water to Gig Harbor, the test leads had not terminated in a CP test box in accordance with PSE's O&M manual.

Finding B - Pierce

PSE's O&M manual section 2450.1600 states, "Calibration checks and calibration of instruments shall be performed according to the schedules listed in this standard." Staff found table 1 indicates that digital thermometer/pyrometers are calibrated semi-annually, not to exceed 7.5 months between inspections. The following is a list of missed calibration dates on the PSE Quality Assurance Inspectors records. PSE has not calibrated pyrometers in accordance with PSE's O&M manual.

- Pyrometer with serial number FLU-7018068 was calibrated 7/2001, 2/2003 and 11/2003.
- Pyrometer with serial number FLU-5930186 was last calibrated 1/2002.
- Pyrometer with serial number ATK-970533434 was calibrated 5/2002 and 11/2003.
- Pyrometer with serial number FLU-6983029 was calibrated 9/2002 and 8/2003.

- Pyrometer with serial number ATK 08734449075 was calibrated 3/2002 and 10/2003.
- Pyrometer with serial number FLU-4355192 was calibrated 3/2002 and 12/2002.
- Pyrometer with serial number FLU 4355130 was calibrated 3/2002 and 4/2003.

2. **49 CFR 192.465 External Corrosion Control: Monitoring**

- (a) *Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of §192.463. However, if tests at those intervals are impractical for separately protected short sections of mains or transmission line, not in excess of 100 feet (30 meters), or separately protected service lines, these pipelines may be surveyed on a sampling basis. At least 10 percent of these protected structures, distributed over the entire system must be surveyed each calendar year, with a different 10 percent checked each subsequent year, so that the entire system is tested in each 10-year period.*

Finding A– Pierce County

At the time of the 2003 inspection, Staff found that test sites at the following locations were not tested at least once each calendar year, not exceeding intervals of 15 months.

- Test site 42511 (5912 98 St. SW Lakegrove).
- Test site 42512 (109 St SW & Bridgeport Way SW).
- Test site 42513 (S 126 St & Park Ave).
- Test site 42510 (Gravelly Lake Dr SW & 98 St SW).
- Test site 45043 (5325 193 Ave Ct E), and
- The whole system that includes test site 47501,47503, 47505, 47507, 47509, 47511, 47513, 47515, 47517, 47519.

Finding B – Pierce County

At the time of PSE’s 2003 inspection, Staff found that the test site located at 701 E. Main Ave, Puyallup, was not cathodically protected and was not monitored in a 10-year interval.

3. **49 CFR 192.481 Atmospheric Corrosion Control: Monitoring**

After meeting the requirements of §192.479 (a) and (b), each operator shall, at intervals not exceeding 3 years for onshore pipeline and at least once each calendar year, but with intervals not exceeding 15 months, for offshore pipelines, reevaluate each pipeline that is exposed to the atmosphere and take remedial action whenever necessary to maintain protection against atmospheric corrosion.

Finding – Pierce County

At the time of PSE's 2003 inspection, Staff found that there was heavy atmospheric corrosion on the natural gas riser located at 10715 62 St E, Puyallup in the Goldenrose Mobile Park, Space 81B. PSE did not provide documentation that the atmospheric corrosion had been evaluated on this pipeline facility exposed to the atmosphere.

Part 192.13 – In addition, Staff also found that PSE failed to comply with its O&M manual Section 2600.1800 4.1 which states, *“Each pipeline exposed to the atmosphere, including service risers, meter sets, piping at district regulators, propane tank farms and CNG injection sites, shall be re-evaluated for atmospheric corrosion at intervals not exceeding 3 years.”*

4. **49 CFR 192.483 Remedial Measures: General**

(c) *Except for cast iron or ductile iron pipe, each segment of buried or submerged pipe that is required to be repaired because of external corrosion must be cathodically protected in accordance with this subpart.*

Finding – Pierce County

At the time of PSE's 2003 inspection, Staff randomly selected 19 corrosion leak reports to review in order to ensure that cathodic protection, such as anodes, were installed. Staff found that PSE's records showed that 10 of the 19 locations did not have anodes installed. The following job numbers/addresses are those found that did not have anodes installed:

- L9504387, 2406 Rosemont Pl W, University Place
- L9404765, 8522 N Thorne Ln SW, Tillicum
- L9503847, 423 S 50 St., Tacoma
- L 9603049, 10501 Gravelly Lake Dr SW, Lakewood
- L9901046, 423 S 50 St, Lakewood
- M0000401, 6151 Steilacoom Blvd SW, University Place
- M0000603, 4128 Beechwood Dr W

- M0100302, 13002 Lake City Blvd SW
- M0102474, 5043 S Washington St
- M0102557, 4518 S Washington St

Part 192.13 –In addition, Staff also found at the above locations, that PSE failed to comply with its O&M manual Section 2600.1900 6.4.2, which states, *“Bare steel pipe segments repaired as a result of external corrosion shall be protected with a galvanic anode.”*

5. **49 CFR Part 192.605 Procedural Manual for Operations, Maintenance, and Emergencies**

(a) *General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response.”*

Finding – King County

At the time of PSE’s 2003 inspection, PSE’s O&M manual section 2625.1400 “Patrolling” did not include written procedures for patrolling the two 8-inch, 250-psig pipelines in the navigable water between Des Moines and Vashon Island, and between Vashon Island and Gig Harbor.

6. **49 CFR 192.747 Valve Maintenance: Distribution Systems**

Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.

Finding – Pierce County

At the time of the 2003 inspection, Staff’s records review of PSE’s designated emergency valves revealed that PSE valve inspections VA1670, VA-6078, VA-6772, VA-2130, VA5129, VA-5273, VA-5316, VA- 5358, VA-5375, VA-5376, VA-5393, VA-5397, VA-5603, VA-5605, VA-5606 and VA-2097 had not been completed in the required time frames.

Part 192.13 – In addition, Staff also found that PSE failed to comply with its O&M manual section 2575.1200 4.1, which defines annually as *“Each valve shall be inspected at the following frequency:*

Valve Type	Frequency
Emergency Section (HP, IP, LP)	Annually *

Transmission Line	Annually *
Supply Main	Annually *
Service Valves as specified In paragraph 2.1.2	Annually *

* "Once each calendar year not to exceed 15 months."

7. **WAC 480-93-110 Corrosion Control**

"Every gas company must ensure that all of its metallic gas pipelines, except cast iron and ductile iron, are protected by a recognized method or combination of methods of cathodic protection . . ."

Finding – Pierce County

At the time of PSE's 2003 inspection, Staff found that the following locations were not cathodically protected.

- 900 Meridian Ave E #2, Milton
- 11105 Valley Ave E #1, Puyallup
- 134 Washington Ave S., Orting, (134 Train St SE, Orting)
- 12825 Pacific Hwy SW, Lakewood
- 445 E Main Ave, Puyallup
- 1119 Main St., Sumner (Lutz Title)
- 1114 Valley Ave #29, Puyallup (5702 112 Ave Ct E #29, Puyallup)
- 201 Calistoga Ave W, (201 Corrin Ave NW) Meter #74602
- 5616 113 Ave E, Puyallup

8. **WAC 480-93-110 Corrosion Control.**

". . .Every gas company shall record and retain all cathodic protection test readings taken and complete remedial action within ninety days to correct any cathodic protection deficiencies known and indicated by the company's records."

Finding – Pierce County

At the time of PSE's 2003 inspection, Staff found that cathodic protection remedial action was not completed within 90 days on PSE work order numbers F442304, F437973, FF437975, F440777, F440776, F450853, F411204, F411949, F450370, F456947, F433320, F434031, F421999, and F423294.

Part 192.13 – In addition, Staff also found that PSE, for the above referenced work order numbers, failed to comply with its O&M manual Section 2600 1900 5.1.1

which states, "Remedial action shall be completed within 90 days to correct any cathodic protection deficiencies known and indicated by the company's records."

9. **WAC 480-93-115 Casing of Pipelines**

Whenever a gas company is required by a governmental entity or railroad company to install pipeline casing, the casing shall be designed to withstand the superimposed load. Steel pipe shall only be encased in a bare steel casing. A separate test lead wire shall be attached to the casing and the steel gas pipeline to verify that no electric short exists between the two. Tests shall be performed annually on all encased gas pipelines. Whenever a short exists between a pipeline and its casing, the condition shall be evaluated within ninety days to determine whether a hazardous condition exists.

Thereafter, leak tests shall be conducted on a ninety-day schedule until the condition is corrected. Every gas company shall develop procedures to ensure that whenever plastic pipe is encased, suitable precautions shall be taken to prevent crushing or shearing of the plastic pipe where it exits the casing.

Finding – Pierce County

At the time of PSE's 2003 inspection, Staff's record review indicated that PSE had not conducted leak tests in the appropriate ninety-day timeframe at the following test sites.

Test Site Number	Located at	Read Dates
#31425	Pacific Ave & S 99 th	12-24-2002 and 3-27-2003
#31431	River Rd and 4 th St NW	6-21-2002 & 9-26-2002 & 12-24-2002 & 3-31-2003
#31869	Portland Ave E & E 18 th	12-24-2002 & 3-28-2003
#31884	S 56 th St and NPPR	2-24-2002 & 3-28-2003
#35029	E 17 th St & Thorne Rd	12-24-2002 & 3-28-2003
#35659	E. E St & E 26 th St	12-24-2002 & 3-28-2003

Part 192.13 – In addition, Staff also found, that PSE failed to comply with its O&M manual section 2600.1900 5.1.3 which states, "Whenever a short exists between a pipeline and its casing, the conditions shall be evaluated within 90 days to determine whether a hazardous condition exists. Thereafter, leak tests shall be conducted on a 90 day schedule until the condition is corrected."

10. **WAC 480-93-188 Gas Leaks Survey**

- (2) *Maintenance and calibration of instruments. All instruments used in leak detection and evaluation shall be maintained, calibrated, and operated in accordance with the latest applicable manufacturers' specifications, methods, and procedures unless alternative specifications, methods, and procedures have been approved by an appropriate governmental agency.*

Finding – Pierce County

At the time of the 2003 inspection, Staff found 14 missed calibration dates on Pilchuck's (PSE's contractor's) Instrument Calibration Data form. PSE has not calibrated gas scopes as follows:

- Gas scope with serial number 1007 was calibrated on 11/8/2003, the next calibration date was 3/11/2003.
- Gas scope with serial number 1024 was calibrated 6/17/2002, the next calibration date was 11/18/2002.
- Gas scope with serial number 1038 was calibrated 5/13/2002, the next calibration date was 9/23/2002.
- Gas scope with serial number 1150 was calibrated 5/3/2002, the next calibration date was 9/23/2002.
- Gas scope with serial number 1150 was calibrated 9/23/2002, the next calibration date was 3/19/2003.
- Gas scope with serial number 1150 was calibrated 3/19/2003, the next calibration date was 8/14/2002.
- Gas scope with serial number 1220 was calibrated 1/9/2002, the next calibration date was 5/20/2003.
- Gas scope with serial number 1220 was calibrated 11/26/2002, the next calibration date was 4/16/2003.
- Gas scope with serial number 1230 was calibrated 5/22/2001, the next calibration date was 1/18/2002.
- Gas scope with serial number 1230 was calibrated 1/18/2002, the next calibration date was 4/22/2002.
- Gas scope with serial number 1230 was calibrated 4/22/2002, the next calibration date was 8/27/2002.
- Gas scope with serial number 1230 was calibrated 8/27/2002, the next calibration date was 11/18/2002.
- Gas scope with serial number 1230 was calibrated 11/18/2002, the next calibration date was 4/7/2003.
- Gas scope with serial number 1230 was calibrated 4/7/2003, the next calibration date was 8/11/2003.

Part 192.13 – In addition, Staff also found for the above locations and dates, that PSE failed to comply with its O&M manual section 2450.1600, which states, “Calibration checks and calibration of instruments shall be performed according to the schedules listed in this standard.” Table 1 indicates that Gas Scopes (MSA 60-natural gas) are calibrated four times a year not to exceed four months.

11. **WAC 480-93-188 Gas Leak Survey**

(6) *Leak survey records. For the most current and immediately preceding survey of an area, the following information shall be maintained:*

(f) *In addition to the above, the following records shall be kept for pressure drop test:*

- (i) *The name of the gas company, the name of the gas company employee responsible for making the test, and the name of any test company used;*
- (ii) *Test medium used;*
- (iii) *Test pressure;*
- (iv) *Test duration;*
- (v) *Pressure recording charts, or other record of pressure readings; and*
- (vi) *Test results.*

Finding – Pierce County

1716 210 Ave E at the time of the 2003 inspection, Staff found that PSE did not have pressure test records for the following high-pressure services located in Sumner at:

- 1605 210 Ave E
- 19911 12 St E, and
- 19918 12 ST E.

12. **WAC 480-93-18601 Table 1-Leak Classification and Action Criteria**

Grade 2-Definition-Priority of Leak Repair - Leaks should be repaired or cleared in one year but shall not exceed fifteen months from the date reported. If a Grade 2 leak occurs in a segment of pipeline, which is under consideration for replacement, an additional 6 months may be added to the 15 months maximum time for repair noted above. Grade 2 leaks shall be reevaluated at least once every six months until cleared.

Grade 3-Definition-Priority of Leak Repairs - Grade 3 leaks should be reevaluated during the next scheduled survey, or within 15 months of the reporting date, whichever occurs first, until the leak is regraded or no longer results in a reading.

Finding A – King County

At the time of the 2003 inspection, Staff found that PSE’s August 2003 Leak Report indicated that PSE had two class 2 leaks that had not been reevaluated, repaired, or cleared.

Finding B – Pierce County

At the time of the 2003 inspection, Staff found that PSE’s 2003 Overdue Leak Report indicated numerous class 2 and 3 leaks had not been repaired or cleared.

Part 192.13 – In addition, Staff also found that PSE failed to comply with its O&M manual section 2625.1300 4 *Gas Leak Classification and Action Criteria*, which states in section 2625.1300 4.2.2.1 “*Repair Priority – Grade B leaks should be repaired or cleared in one year but shall not exceed 15 months from the date reported*” and also in section 2625.1300 4.2.3.1 “*Repair Priority – Grade C Leaks should be reevaluated during the next scheduled survey, or within 15 months of the last evaluation, whichever occurs first, until the leak is regarded or no longer results in a reading.*”

Other Areas of Concern

(No Specific Violations Cited At This Time) – Response Required

1. Staff observed several Fisher regulators with the vents in a horizontal position. Fisher regulator states that vents should always be pointed in a downward position so as not to accumulate water or moisture, which could affect the regulator operation. An example of Staff's observation would be the regulator found at meter number 339451.

2. PSE should indicate a repair timeframe for atmospheric corrosion remedial action. Staff reviewed records indicating that remedial action was required but over a year elapsed between the inspection and the repair. Examples of inspections where an extended period of time occurred between the inspection and repair are as follows:
 - 2103 31st Ave SE, Puyallup. Inspected 3/26/2002 and repaired 6/4/2003.
 - 7308 114th St Ct E, Puyallup. Inspected 3/25/2002 and repaired 6/5/2003.
 - 10319 13th St Ct E Edgewood. Inspected 10/31/2002, no repair information as of this inspection.
 - 675 Elm-Tree Lane Fircrest. Inspected 8/15/2002, no repair information as of this inspection.
 - 3325 77th Ave NW Gig Harbor. Inspected 10/3/2002, no repair information as of this inspection.

3. PSE personnel indicated that some valves were not accessible while conducting bridge patrols. As of the date of this inspection, these valves were not made accessible. An example would be the valve at the Valley Ave and Highway 410 bridge in Sumner, plat no. 248.079. PSE's O&M manual procedure 2625.1400 section 5.2.1.3 requires that valves on bridge crossings be checked for accessibility during regular patrols. The patrol conducted on December 3, 2002, indicated that the valve was not accessible. As of the date of this inspection, the valve is still not accessible or operable due to being paved over. PSE should add remedial action timeframes for items identified during patrols as requiring follow up action.

4. PSE's O&M manual requires that mobile home surveys be conducted every three years. PSE just met the survey frequencies and should rewrite the timeframe to allow a grace period, otherwise they risk being in violation of Part 192.13.

5. Office of Pipeline Safety interpretation 192.555 – 5, dated May 31, 2001, requires that a previous pressure test be used to substantiate any new MAOP obtained by uprating. If a previous pressure test for the affected segment of pipeline would not substantiate the new proposed MAOP, then a pressure test must be conducted in conjunction with the uprate. This limitation is not stated in PSE's procedure 2575.2500 and should be added.

6. PSE indicated that the patrolling of the two 8-inch 250-psig pipelines running under the water in Puget Sound from Des Moines to Vashon Island, and from Vashon Island to Gig Harbor had been discontinued. To prevent failure or leakage of the pipelines and the consequent hazards to public safety caused by damage to the pipelines from boat anchors and other hazards, PSE should begin patrolling the two 8-inch 250-psig pipelines.