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PUGET SOUND ENERGY

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December 17, 2007

Carole J. Washburn, Secretary
Washington Utilities and Transportation Commission
P.O. Box 47250
Olympia, WA 98504-7250

Attn: Dave Lykken, Pipeline Safety Interim Director

RE: 2007 Standard Inspection of King County Distribution System, Docket PG-070179

Dear Mr. Lykken,

This letter is in response to the "2007 Standard Inspection of King County Distribution System" report dated November 15, 2007. In this report, Staff identified four probable violations and five areas of concern. Below are PSE's responses to these findings.

PROBABLE VIOLATIONS

1. **Part 192.199 Requirements for the Design of Pressure Relief and Limiting Devices.**

(e) Each pressure relief or pressure limiting device must; "Have discharge stacks, vents, or outlet ports designed to prevent accumulation of water, ice, or snow, located where gas can be discharged into the atmosphere without undue hazard"

Finding(s):

(a) The Mark Twain Elementary School at 2450 South Star Lake Drive (Meter No. 556349,528284, & 629477) in Federal Way.

(b) The Fire Station at 27015 16th Ave South (Meter No. 1013069) in Federal Way.

Both meter sets are located under extended roof eves at the inside corner of two exterior walls. The locations are sheltered areas with limited air circulation creating a potential hazard. The Mark Twain Elementary School regulator vent was identified during the 2005 inspection (PG-050516) with a PVC vent extending above the roof. The vent pipe was removed and a 2-inch long steel nipple was placed on the outlet of the regulator. The Commission's response dated September 25, 2006, stated the downward directed nipple does not meet the intent of CFR 192.199(e) discharging into the atmosphere without undue hazard.

Response:

PSE engineers have reviewed both of these installations and concluded that the vent locations would allow gas to discharge into the atmosphere without undue hazard. This conclusion was based on an analysis of the unique features of each building including the roof design and openings to the building's interior, distance from the vent to potential sources of ignition, and natural gas venting characteristics.

While PSE engineers have applied their engineering judgment to these installations and have concluded they are safe and compliant, PSE is open to meeting with Staff to further discuss these installations if there are any remaining concerns. PSE will contact Staff to determine if a meeting is required.

2. **Part 192.355 Customer Meters and Regulators: Protection from Damage.**

(b) Service regulator vents and relief vents. Service regulator vents and relief vents must terminate outdoors, and the outdoor terminal must

(1) Be rain and insect resistant;

PSE Gas Operating Standards

2550.1000.3.3.1.1 For regulators that have breather vents, the regulator shall be installed such that the breather vent is pointed down or a gooseneck shall be attached to the breather vent and oriented down.

Finding(s):

The regulator vents were found placed in the horizontal direction that could potentially allow moisture to accumulate in the regulators located at the Super Mall at Meter No. 629949 & 431045.

Response:

PSE has an existing program to identify and remediate regulator vents that terminate horizontally. This program is outlined in Appendix C of the Stipulated Agreement to Close Dockets PG-050331 and PG-050516 and approved by the Commissioners in an order accepting the agreement and closing the dockets in October of 2007. Both of these horizontal vents had been identified prior to the audit and remediated as part of this program.

The horizontal vent at meter number 629949 was identified in July and remediated on October 3, 2007. The horizontal vent at meter number 431045 was identified in June and remediated on August 16, 2007. PSE performed a follow-up inspection at this location since our records indicated remediation was completed prior to the inspection. The follow-up inspection confirmed that PSE's regulators were vented correctly and identified a horizontal vent on the customer's regulator. PSE's inspector completed a "Customer Report" directing the customer to make corrections.

3. **Part 192.479 Atmospheric Corrosion Control: General**

(a) Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere...

Finding(s):

(a) The service riser at 3701 SW Ida Street, Seattle (meter # 242425) was found severely pitted.

Response:

PSE performed an atmospheric corrosion inspection on this facility on February 2, 2007. In accordance with Gas Field Procedure 4515.1220 "Monitoring Atmospheric Corrosion", PSE rated the corrosion at this location as a 2. A corrosion rating of 2 is described as minor corrosion with surface rust where corrosion does not noticeably penetrate into the metal. PSE has determined that a facility with a corrosion rating of 2 will not affect the safe operation of the pipeline before the next scheduled inspection.

Therefore, in accordance with 192.479 (c) (2) and PSE's Gas Operating Standard 2600.1900 "Remedial Measures for Corrosion Control", this facility was not required to be remediated. However, at the time of the Staff's inspection on September 26, the PSE employee detected a gas odor at this meter set and initiated a follow-up inspection. The employee that followed up on the gas odor identified and repaired a small leak on a union at the meter set assembly. At the same time, the employee cleaned and painted the facility, including the service riser. This work was completed on September 26, 2007.

4. **Part 192.463 External Corrosion Control: Cathodic Protection.**

(a) Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in appendix D of this part.

Finding(s):
A low pipe-to-soil value was found at DR 1565 (-0.676 vDC) because the local rectifier needs maintenance. A new ground bed is proposed to replace the deficient bed at the Allentown Rectifier located in the 4300 block of South 124th Street, Tukwila.

Response:

The Allentown Rectifier provides cathodic protection for this system and is inspected 6 times per calendar year with intervals between inspections not exceeding 2-1/2 months. The inspection history for this rectifier indicates that it was providing adequate protection for the system until the inspection performed on June 14, 2007. At that time, it was discovered that the anode bed had failed. Since then, PSE has been working to install a new deep well anode bed including identifying a site, pursuing an easement, applying for permits, and obtaining materials necessary to install the anode bed. PSE anticipates that the new anode bed will be installed in early 2008.

AREAS OF CONCERN

1. **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.

PSE Gas Operating Standards
2600.1500.5.1.1
Voltage shall be within the range of -0.85 V to -2.0 V for the ON read...

Finding(s):
A level of cathodic protection at the South Seattle Gate Station was found to be -3.145 vDc. This exceeds PSE standard (2600.1500.5.1.1) that states, The local rectifier output voltage was increased to provide coverage where the rectifier serving at DR 1565 was out of service (see Violation Item No. 4, above). Excessive voltage could damage the bond between the pipe and its coating.

Response:
PSE's Gas Operating Standard 2600.1500 "Monitoring Cathodic Protection" paragraph 5.1.1.1.3 requires cathodic protection measurements taken near a

power source to be made by measuring the Instant Off potential of the structure. In this case, the rectifier is located at the South Seattle Gate Station necessitating an Instant Off read to obtain an accurate measurement of cathodic protection.

Operating Standard 2600.1500 also specifies the acceptable range for pipe to soil potentials (PSP) reads taken using the Instant Off Criteria to be between -0.85 V to -1.2 V. The -3.145 V read taken during the audit was not an Instant Off read. The PSP reading taken at this location using the Instant Off procedure on October 1, 2007 was -1.17 V which is within the acceptable range specified in PSE's gas operating standards.

2. **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.

PSE Gas Operating Standards

2550.2100 Table 3-1 Piping Downstream of the Meter

Fuel Line.
Customer that is not a master meter operator.
The piping must meet the requirements of the International Mechanical Code (IMC).

Finding(s):

The fuel lines at the Kent Station Shopping Mall complex are copper tubing with mechanical compression type joints. Please provide documentation for this type of fuel line where welded and screwed joints are not used.

Response:

The primary focus of PSE's Gas Operating Standard 2550.2100 "Piping Downstream of a Meter" is to establish the requirements for piping downstream of the meter that is installed, owned, operated and maintained by PSE. This piping is also known as an Extended Utility Facility (EUF.) Table 3-1 in this standard was developed to provide an explanation of how an EUF is different from customer owned piping. One of the differences is which regulations govern the installation. Because the International Mechanical Codes apply to customer owned piping that is not a master meter system, this code is referenced in the standard. This reference is documented to provide understanding to PSE personnel using this manual and is not intended to expand PSE's responsibility to customer owned piping. Because this piping is customer owned fuel line and is not an EUF, the customer is responsible for the compliance of their system. While PSE is not responsible for ensuring this system is compliant, our review of the International Mechanical Code indicates compression joints on copper tubing should be acceptable as long as they meet the performance requirements specified in the code.

3. **WAC 480-93-170 Tests and Reports for Pipelines**

(10) Pressure testing equipment must be maintained, ... The requirements of this section also apply to equipment such as pressure charts, gauges, dead weights or other devices used to test, monitor or check system pressures or set-points.

Finding(s):

The high pressure hoses used to check the set-point on the overpressure protection relief valves are not maintained by pressure test. PSE does not have a procedure to periodically test high pressure hoses on regular basis.

Response:

The hoses PSE uses to check the set-point on the overpressure protection relief valves are all rated for a minimum of 2,200 psig. PSE employees that use these hoses ensure their integrity by a visual inspection and replace the hose as well as the fittings that connect the hose to the piping as necessary based on their visual inspection. PSE believes this maintenance practice combined with the significant factor of safety due to the pressure rating of the hose is adequate.

4. **Part 192.491 Corrosion Control Records.**

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures.

WAC 480-93-018 Records.

(4) Operators must record and maintain records of the actual value of any required reads, tests, surveyor inspections performed

Finding(s):

The pipe-to-soil and rectifier monitoring records are electronically stored without sufficient detail to polarity. All data is recorded as positive sign values. Staff recommends that PSE include the standard sign convention for pipe-to-soil and rectifier values in their database.

Response:

PSE is currently working on upgrades to our SAP system where these corrosion control measurements are kept. These upgrades will include evaluating and developing a plan to address this finding.

5. **Part 192.727 Abandonment or Deactivation of Facilities.**

(b) Each pipeline abandoned in place must be disconnected from all sources and supplies of gas; purged of gas...

Finding(s):

The Issaquah gate station located on SE 56th Street and East Lake Sammamish parkway has been taken out of service. The facility has gas at the aboveground valve from the distribution main. The valve is closed and secured. In general, the station is in various stages of being dismantled with the regulators and meters removed. The building that housed the regulators, above ground piping, and odorant tank are on site. The facility has been abandoned for years, the vegetation has encroached on the site, the building has been tagged with graffiti, and the security fence has been damaged. The potential for vandals at the facility

exist. Staff recommends the distribution main be disconnected from the fuel source at the street and the odorant tank be removed.

Response:
All aboveground gas carrying facilities including the odorant tank have been disconnected from the source of gas supply and purged of gas as of November 14, 2007.

PSE respects the Commission's responsibilities in auditing and enforcing pipeline safety regulations and we continue our efforts to construct and operate a safe system that meets high standards of excellence.

Please feel free to contact me at 425-462-3734 if you have any further questions or comments.

Sincerely,

Stephanie J Kreshel

Stephanie Kreshel,
Interim Manager - Compliance and Regulatory Audits, Gas

cc: Mike Hobbs
Duane Henderson
Erik Markell
Bert Valdman
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