PUGET SOUND ENERGY
The Energy To Do Great Things

February 23, 2009

David W. Danner, Executive Director and Secretary
Washington Utilities and Transportation Commission
PO Box 47250
Olympia, WA 98504-7250

Attn: Anne Soiza, Pipeline Safety Director

RE: 2008 Standard Inspection of Pierce County Distribution System, Docket PG-080031

Dear Ms. Soiza,

This letter is in response to the "2008 Standard Inspection of Pierce County Distribution System" report dated December 23, 2008. In this report Staff identified 11 probable violations and two areas of concern. Below are PSE's responses to these findings.

PROBABLE VIOLATIONS

1. **WAC 480-93-01/(5) Records**

   (1) Each gas pipeline company must update its records within six months of when it completes any construction activity and make such records available to appropriate company operations personnel.

   Charge:
   PSE did not update records (maps) within six months of completion of construction activity and make them available to appropriate company operations personnel as required.

   Findings:
   a) PSE failed to update Map #246.50 Rev 06/23/08 to reflect the addition of new services within 6 months as required. Map #246.50 Rev 01/19/05 was redlined during a leak survey on 3/26/07 to show 7 new services. Five of those 'new services do NOT appear on the Map #246.50 Rev 06/23/08 map.
      i. 7822 A & B 49th St Ct W
      ii. 7819 79th Ave W
      iii. 4819 79th Ave W
      iii. 5522 80th Ave Ct W
      iv. 4812 81st Ave W (Sunset Drive)

b) PSE failed to update Map #214.57 Rev 06/19/08 to reflect the addition of new services within 6 months as required. Map #214.57 Rev 06/11/07 was redlined during a leak survey on 8/13/07 to show 2 new services. Both of these 'new services' do NOT appear on Map #214.57 Rev 06/19/08 map

i. Two new services east of Shop Rite on 178th St.
ii. 18011 99th Ave
iii. 18005 99th Ave

PSE Response:

PSE has updated all of the above noted locations on our plat maps. Separate of this finding, in May of 2008, PSE identified that a review of its map updating process was required. PSE immediately embarked upon an initiative to improve upon the entire mapping update cycle time as it relates to both new construction and operations and maintenance related work. PSE has begun to pilot some of the new processes and the results have already demonstrated improvements. Additional changes have since been identified to complete this PSE initiative and we expect this effort to carry on through the remainder of the year. This will allow PSE the opportunity to implement the enhancements and validate their effectiveness.

2. **WAC 480-93-100 (1)(i), (2)(f), (3) Valves**

(1) Each gas pipeline company must have a written valve maintenance program detailing the valve selection process, inspection, maintenance, and operating procedures. T he written program must detail which valves will be maintained under 49 CFR § 192.745, 49 CFR § 192.747, and this subsection. The written program must also outline how the gas pipeline company will monitor and maintain valves during construction project to ensure accessibility. The following criteria and locations must be incorporated in the written program. The written program shall explain how each of the following are considered in selecting which valves require annual inspections and maintenance under 49 CFR §192.747:

i. High occupancy structures or areas

(2) Each gas pipeline company must have a written service valve installation and maintenance program detailing the valve selection process, inspection, maintenance, and operating procedures. The written program must detail which new services will be required to have valves installed and maintained under this section. Service valve installation requirements do no apply to existing services (they are not retroactive). Existing service valves that historically have not been maintained but are deemed necessary for maintenance by the written valve maintenance program must be maintained in accordance with subsection (3) of this section (service valve maintenance requirements are retroactive). The written program shall explain how each of the

following criteria and/or locations are considered in selecting which services will have valves installed and/or maintained under this subsection:

(f) Services to high occupancy structures or areas

(3) All service valves selected for inspection in the program required in subsection (2) of this section must be operated and maintained at least once annually, but not to exceed fifteen months between operation and maintenance.

Charge:
PSE did not complete required annual HOS valve maintenance for High Occupancy Structures or areas annually or within 15 months as required.

Findings:
PSE did not perform annual valve maintenance on 52 HOS valves within the required time frame. Refer to Attachment B for the list of past due valves.

PSE Response:
PSE has reviewed the annual High Occupancy Structures (HOS) valve maintenance program and agrees with the findings. Separate of this finding, in late 2006, PSE had identified that a review of this process was required. PSE began discussions with PSE program management personnel and with our service provider who performs the field valve maintenance activities. This resulted in making adjustments to both the administrative processes related to releasing the work to the field in a more timely manner as well as requiring that the service provider make adjustments to both the manner of prioritizing this work and staffing (adding crews). The effectiveness of the changes is evidenced by the substantial improvements made in 2007 versus 2005 and 2006. Since two valves missed the timeline requirement in 2007, PSE has further reviewed this process with the aforementioned groups and has initiated a further improvement to the administrative processes with PSE and Service Provider staff. PSE would ask that staff consider this matter resolved with no further actions required.

3. **WAC 480-30-110(2) Corrosion control**

Each gas pipeline company must complete remedial action within ninety days to correct any cathodic protection deficiencies known and indicated by any test, survey, or inspection. An additional thirty days may be allowed for remedial action if due to circumstances beyond the gas pipeline company's control the company cannot complete remedial action within ninety days. Each gas pipeline company must be able to provide documentation to the commission indicating that remedial action was started in a timely manner and that all efforts were made to complete remedial action within ninety days. (Examples of circumstances allowing each gas pipeline company to exceed

the ninety-day time frame include right of way permitting issues, availability of repair materials, or unusually long investigation or repair requirements.)

Charge:
PSE did not correct cathodic protection deficiencies within 90 days as required.

Findings:
46 EPCRs that had low CP reads and were not remediated within 90 days.

Refer to Attachment C for the list of past due facilities identified.

PSE Response:
PSE has reviewed the list provided and offers the following update to the two locations listed on the spreadsheet that are noted as outstanding:

Notification 10630719 – the Date Remediated as it appears as 6/29/2009 is incorrect. The date was incorrectly entered and should have read 06/29/06 when the service line was replaced. This notification was remediated and thus we respectfully request that it be removed.

Notification 10718423 – This job is pending to have the service replaced. PSE's Right of Way Group has been working with the customer to get an easement to install new main. Job began on the week of 02/16/09 and is anticipated to be complete the week of 02/23/09.

PSE further reviewed records related to the following notifications noted on the spreadsheet and offers the following updates:

Notification 10646419 - Further review of records indicate that the pipe was retired at the time the low read was taken. The appropriate remediation date is thus 08/01/06 and thus met the 90 day remediation requirement.

Notification 10661022 – As documented on the UTC provided spreadsheet and noted in PSE's records this notification met the 90 day remediation requirement and thus we respectfully request its removal from this finding.

Notification 10718189 – Further records review determined that the date originally entered into SAP was the date of main retirement. The location of the low read was on the service line and it was replaced on 03/09/07 under notification 10718258, thus PSE did meet the 90 day remediation requirement.

Notification 10770692 – Further records review found that a remediation date data entry error occurred. The date entered should have shown 10/22/07 and not 10/22/08, thus the 90 day remediation requirement was met.

Notification 10796809 – Further records review determined that this service was replaced on 10/25/07 and not the previous recorded date of 03/04/08, thus the 90 day remediation requirement was met.

PSE acknowledges that the 39 remaining locations were NOT remediated within the 90 day remediation requirement. PSE continues to experience challenges in managing to this requirement due in large part to the permitting and excavation requirements imposed by cities and municipalities. We have expended considerable effort and time to enhance communication and education with these entities as to the WAC requirements. The reduction in number of remediation's over ninety days late during the past years is also further evidence of our improved interactions with the communities we serve. PSE is currently examining methods of improving the record and life cycle tracking of corrosion control related work orders in order to further improve the visibility and transparency of the overall process.

4. **WAC 480-93-170(4) Tests and reports for gas pipelines**

(4) All service lines that are broken, pulled, or damaged, resulting in the interruption of gas supply to the customer, must be pressure tested from the point of damage to the service termination valve (generally the meter set) prior to being placed back into service.

Charge:

PSE failed to complete required testing for a broken, pulled or damaged pipeline.

Findings:

PSE cannot provide documentation that they completed pressure testing after excavation. Seven Leak Work Orders out of 345 Leak Work Orders reviewed do NOT have record of the required pressure test from point of damage back to the meter set.

#N0025250
#N0025830
#N0025891
#N0025962
#N0028228
#N0028285
#N0028824

PSE Response:

PSE has reviewed the noted leak work orders and has determined that five out of the seven did indeed have pressure tests performed and are so noted on the leak work orders. Please see attached Leak Work Orders where the pressure test recordings have been highlighted.
PSE agrees that two (#N0028228 and #N0028285) Leak Work Orders did NOT indicate pressure tests.

It should be noted that PSE's standards require that pressure testing should be performed, our forms indicate an area of where this is to be recorded and PSE and our service provider are trained on this process. PSE and our service provider are currently preparing the Operator Qualification course (required every three years for re-qualification purposes) related to the entire leak handling and management processes. This program will begin in March and will continue through the spring of 2009. Workshops are currently underway to prepare for this training which is to include enhancements to training and related materials. Forms and job aide enhancements related to this and other leak related audit findings in this docket will be communicated and trained. In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to leak work order activities. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed. PSE's Quality Control Department will begin there auditing function on the leak work processes.

5. **WAC 480-93-178 (2) Protection of plastic pipe**

(2) The gas pipeline company must follow the manufacturer's recommendation for maximum cumulative ultraviolet light exposure limit for plastic pipe. If there is no such recommendation, the gas pipeline company must not expose plastic pipe to ultraviolet light for more than two years. Each gas pipeline company must include the applicable ultraviolet exposure time limit it its procedures manual.

Charge:
(a) Potelco (PSE) did not follow storage procedure PSE 2450.1500 § 3.6 for storage of PE pipe.
(b) Potelco (PSE) did not follow storage procedure PSE 2450.1500 § 3.5 for storage of PE pipe.

Findings:
(a) Potelco (PSE storage yard contained PE pipe manufactured (07/10/1998) more than two years old.
(b) Potelco (PSE) stored pipe on the ground

PSE Response:
Neither PSE, nor our service provider, Potelco, sources or stores any gas field material at the Sumner location for use on PSE gas facilities. All materials for installation are stocked at the operating bases. The pipe noted by these findings is discarded pipe and is being stored until proper disposal at a later date. PSE is currently reviewing opportunities to improve our ability to identify and tag all materials including discarded materials. Based upon this information, PSE requests that this probable violation be removed from the docket.

6. **WAC 480-93-186(2) Leak evaluation**
Each gas pipeline company must establish a procedure for evaluating the concentration and extent of gas leakage. When evaluating any leak, the gas pipeline company must determine and document the perimeter of the leak area. If the perimeter of the leak extends to a building wall, the gas pipeline company must extend the investigation inside the building. Where the reading is in an unvented, enclosed space, the gas pipeline company must consider the rate of dissipation when the space is ventilated and the rate of accumulation when the space is resealed.

Charge:
PSE failed to document on the leak work order that an inside survey was performed as required when gas is detected at the building wall per WAC 480-93-186(2) and PSE procedure manual 2625.1200 § 9.1.1.

Findings:
PSE personnel did not record that a leak check was performed inside building when gas was detected at the building wall for the following Leak Work Orders:

Leak Work Order	No Inside test	No Leak cause
N0025231	X	X
N0029342	X	
N0025467	X	
N0020261*	X	
N0011365	X	
N0026191	X	
N0026166	X	
N0024987	X	
N0024966	X	
N0024868	X	
N0027898	X	
N0027682	X	
N0025373	X	
N0025067	X	
N0025638	X	
N0024878	X	

N0025487	X	
N0020261*	X	

PSE Response:
PSE has reviewed all of the noted leak work and agrees that the leak work orders* did not indicate that an inside survey was performed. PSE's standards require that an inside survey be performed when gas is detected at the building wall and be recorded. Additionally, PSE and service provider personnel are trained on this process and that the documentation of the findings is to be made in the open text area of the form. PSE and our service provider are currently preparing the Operator Qualification course (required every three years for re-qualification purposes) related to the entire leak handling and management processes. This program will begin in March and will carry through the spring of 2009. Workshops are currently underway to prepare for this training which is to include enhancements to training and related materials. Forms and job aide enhancements related to this and other leak related audit findings in this docket will be communicated and trained. In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to the leak work order processes. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed. PSE's Quality Control Department will begin there auditing function on the leak work processes.
*Please note that leak work order N0020261 is denoted twice in the table above.

7. **WAC 480-93-186(3) Leak evaluation**

(2) The gas pipeline company must check the perimeter of the leak area with a combustible gas indicator. The gas pipeline company must perform a follow-up inspection on all leak repairs with residual gas remaining in the ground as soon as practical, but not later than thirty days following the repair.

Charge:
PSE failed to perform a follow up leak inspection on all leak repairs with residual gas remaining in the ground within thirty days as required.

Findings:
The following Leak Work Orders do NOT show the required follow-up inspection within 30 days when residual gas was detected.
#N0010393
#N0018215
#N0021268
#N0024682

PSE Response:
PSE has reviewed all of the noted leak work and agrees that the leak work orders did NOT indicate that a follow-up inspection was performed. PSE's standards require that a follow-up inspection be performed and that it be notated accordingly.

Additionally, PSE and service provider personnel are trained on this standard and the forms provide for the appropriate documentation of this requirement. PSE and our service provider are currently preparing the Operator Qualification course (required every three years for re-qualification purposes) related to the entire leak handling and management processes. This program will begin in March and will continue through the spring of 2009. Workshops are currently underway to prepare for this training which is to include enhancements to training and related materials. Forms and job aide enhancements related to this and other leak related audit findings in this docket will be communicated and trained. In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to leak work order activities. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed. PSE's Quality Control Department will begin there auditing function on the leak work processes.

8. **WAC 480-93-187(10) Gas leak records**

Each gas pipeline company must prepare and maintain permanent gas leak records. The leak records must contain sufficient data and information to permit the commission to assess the adequacy of the gas pipeline company's leakage program. Gas leak records must contain at a minimum, the following information:

(10) *Leak cause*;

Charge:

PSE personnel failed to correctly code the LEAK CAUSE on 14 Leak Work Orders.

Findings:

Fourteen cases where the Leak Cause was recorded F- Other or G-equipment when the correct cause was B-excavation or H-outside forces.

Leak Work Order	Recorded Cause	Correct Cause	Comments
N0026606	F-Other	H-Outside Forces	
N0026558	F-Other	B-Excavation	Excavation – Third Party
N0027775	G-Equipment		Excavation – Third Party
N0027245	G-Equipment	B-Excavation	Excavation – Third Party
N0027250	G-Equipment	B-Excavation	Excavation – Third Party
N0027240	G-Equipment	B-Excavation	Directional Drilling (Excavation)
N0027632	F-Other	B-Excavation	Removing Fence Posts-Service too shallow
N0027613	F-Other	B-Excavation	Looks to be 3rd party
N0027596	F-Other	(B)-Excavation	Excavation – Third Party
N0027481	F-Other	B-Excavation	Excavation – Third Party
N0027392	F-Other	B-Excavation	Should be Third Party

N0027195	F-Other	B-Excavation	Excavation – Third Party
N0027969	G-Equipment	B-Excavation	Third Party
N0027716	F-Other	(B)-Excavation	Broken 2 inch main, probably 3rd Party

PSE Response:
PSE has reviewed these noted leak work orders and agrees that the cause codes recorded were incorrect. Separate of this finding, PSE recognized this matter late in 2007 as part of our own internal review of the Failure Analysis Program. Results of the review showed several areas where improvements could be made. PSE embarked on educating the affected field employees. In order to ensure that the training was effective PSE continued to monitor the field reports. The discrepancies between the field assigned Leak Cause code and that determined by failure analysis continued to be an issue. PSE's Failure Analysis Program leads determined that the proper leak cause code selection is crucial for the accurate evaluation of material failures. As a result, additional education was provided to those personnel responsible for completing this paperwork. The following two activities were implemented during 2008:

1) Publishing a 'Special Insert on Leak Cause Codes' (see 'The Word' article attached)
2) Leak Cause Code definitions were enhanced on internal Failure Analysis cards.

In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to the leak work order processes. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed.

9. **WAC 480-93-188(1)(c) Gas leak surveys**

(1) Each gas pipeline company must perform gas leak surveys using a gas detection instrument covering the following areas and circumstances:

(c) On all above ground piping (may be checked with either a gas detection instrument or with a soap solution);

Charge:
PSE did not record gas leak surveys for above ground areas as required.

Findings:
PSE cannot demonstrate that the above ground pipe section of service #1 (Puyallup Fairgrounds) was checked for gas leaks as required. This service is marked as item #1 on Puyallup Fairgrounds map 250.73, just west of the Gold Gate (Meridian & 9th).

PSE Response:
PSE has now performed the appropriate leak survey on the piping as required. In researching this finding it was discovered that this was a result of human error that occurred during the isolated facilities review of the system. The Isolated Facilities field team was well trained in all aspects of what they were to identify in the field. The results of each location would be entered into a hand held device. In this particular case the field representative made a key stroke error resulting in 'no further action' being required. If entered into the system properly, it would have resulted in a special notation requiring further action under the Hard to Reach Location (H2RL) Program, which in turn would result in performing leak survey and any other activities required at that site. PSE's Isolated Facilities team is nearing the completion of the field component of there survey activities. PSE is now utilizing Heath Consultants to perform Atmospheric Corrosion surveys along with their normal leak survey process. Heath has been trained to identify and properly document Hard to Reach Locations so that the appropriate hand off can occur to the H2RL Program staff for performing the appropriate follow-up activities as required. Based on the aforementioned, PSE believes no further action is required.

10. **WAC 480-93-188(4)(e) Gas leak surveys**

(4) *Each gas pipeline company must conduct special leak surveys under the following circumstances:*

(e) After third-party excavation damage to services, each gas pipeline company must perform a gas leak survey from the point of damage to the service tie in.

Charge:
PSE did not perform a gas leak survey (bar hole testing) from point of break to the service tie in for 69 Leak Work Orders.

Findings:
PSE could NOT show documentation of required leak surveys back to the tie in after third hits on over 19% of Third Party Leak Work Orders reviewed. 356 3rd Party Leak Work Orders were evaluated and 69 did not show a leak survey (bar hole testing

PSE Response:
PSE has reviewed all of the noted leak work and agrees with the noted findings. PSE's standards require that a gas leak survey be performed and that it be notated accordingly. Additionally, PSE and service provider personnel are trained on this process and that the documentation of the findings is to be made in the open text area of the form. PSE and our service provider are currently preparing the Operator Qualification course (required every three years for re-qualification purposes) related to the entire leak handling and management processes. This program will begin in March and will continue through the spring of 2009. Workshops are currently underway to prepare for this training which is to include

enhancements to training and related materials. Forms and job aide enhancements related to this and other leak related audit findings in this docket will be communicated and trained. In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to leak work order activities. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed. PSE's Quality Control Department will begin there auditing function on the leak work processes.

11 **49 CFR §192.491 (a)(b)(c) Corrosion control records**

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(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 or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to §§192.465(a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

Charge:
PSE failed to provide records demonstrating that an anode was attached to the pipeline before backfilling a corrosion leak on bare pipe.

Findings:
The following PSE Leak Record does NOT show that a galvanic anode was connected to bare steel pipe at the site of a corrosion leak repair.

#N0017665
#N0028120
#N0018481
#N0027620
#N0026014
#L9804018
#N0027687

PSE Response:
PSE has reviewed all of the noted leak work and offers the following explanations:

#N0017665 and #L9804018 – PSE found that the Service Provider who performs the field work documented the installation of 32 pound anodes on the material list for each location, rather than the leak work order. We have taken this opportunity to reaffirm the importance of documenting the installation of anodes in the appropriate manner.

#N0028120 – PSE has determined that this was and is still being monitored as an active leak on a high pressure valve. An anode is not required for this activity and we respectfully request this leak work order be removed from this finding.

#N0018481 – PSE reviewed this leak work order and located in the free text area that a 32 pound anode was installed and we respectfully request its removal from this finding.

#N0027620 and #N0027687 – Upon further research by our Quality Assurance and Inspection department, it was determined that the crews intentionally did NOT install the anodes on these leak repairs as the bare steel main was scheduled for replacement in less than one week. PSE feels that this was a prudent decision. However, PSE feels that notation of this decision would have been helpful and will take this as an opportunity to emphasize the value of documenting decisions. For the aforementioned reason we respectfully request the removal of these two leak work orders from this finding.

#N0026014 – PSE review determined that an anode was NOT required at this location since this was a wrapped steel service connected to a cathodically protected wrapped steel main. PSE respectfully requests the removal of this leak work order from this finding.

Please note: As indicated above, PSE either installed anodes where required, did not install them as they were not required or PSE located the deficiencies through our Quality Assurance and Inspection department and rectified the issue accordingly. PSE recognizes the importance of proper documentation and is committed to ensuring that we remain compliant. PSE and our service provider are currently preparing the Operator Qualification course (required every three years for re-qualification purposes) related to the entire leak handling and management processes. This program will begin in March and will continue through the spring of 2009. Workshops are currently underway to prepare for this training which is to include enhancements to training and related materials. Forms and job aide enhancements related to this and other leak related audit findings in this docket will be communicated and trained. In addition, PSE's newly formed Quality Control Department is currently developing the auditing and reporting processes related to leak work order activities. We anticipate that the Q.C. processes will enhance PSE's ability to capture issues or trends and thus enable quick response and/or adjustments as needed. PSE's Quality Control Department will begin there auditing function on the leak work processes.

AREAS OF CONCERN

1. Atmospheric corrosion was found at the Bethel High School meter set. PSE's most recent Atmospheric Corrosion Survey of this meter set on 2/07/2008 rated corrosion as a "Category 1" (no corrosion). PSE personnel stated that the current corrosion rating would be a "2" (surface corrosion) or possibly a "3" (minor pitting) and the current condition could not have developed in the time between 2/07/08 survey and the date of our field inspection (9-15-08). Our concern is that other areas of atmospheric corrosion may have been incorrectly rated. PSE personnel did not follow PSE procedure 4515.1220 Corrosion Rating System in rating the condition of atmospheric corrosion. PSE's Subject Matter Expert (SME) agrees that this corrosion, which turned out to be minor pitting, was definitely not a rating of "1" for corrosion.

2. The records for the Puyallup uprate to a MAOP of 60 psig were reviewed. Staff found 52 out of 318 pipe sections listed in the Puyallup uprate without a pressure test to substantiate the uprate. Also there were two cases where the pressure test was less than the required 90 psig required to substantiate an MAOP uprate to 60 psi.

   We reviewed PSE's uprate procedure 275.2500 §5.2.1.4.2 for IP mains. The procedures states *"For IP main, if the original pressure test document* ***cannot*** *be obtained, historical leak and strength testing requirements from previous Operating Standards may be used as the pressure test document with the approval of the Manager Gas Compliance and Regulatory Audit."*

   We are concerned that this procedure would allow uprating without the required pressure tests or reviews that would substantiate further uprates.

   Per WAC 480-93-155(2), uprates must be based on a previous or current pressure test that will substantiate the intended MAOP. If pressure tests **cannot** be found to substantiate an uprate, then another procedure should be developed to ensure that during and after an uprate, additional tests or surveys are performed. Staff's concern for safety would not allow uprating when pressure tests are unavailable to substantiate the intended MAOP.

PSE Response for AOC #1 and 2:

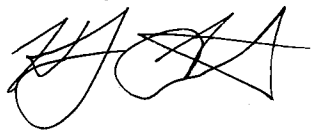
PSE has reviewed AOC #1 and feels that this is an opportunity to reinforce our training processes on assessing and properly rating atmospheric corrosion and we have proceeded in support of this opportunity.

PSE has reviewed AOC #2 and looks forward to the opportunity to continue discussions with UTC Staff on this matter so as to find a method of resolution on this issue.

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

Please feel free to contact me at 425-462-3967 if you have any further questions or comments.

Sincerely,



Helge Ferchert
Manager, Gas Compliance and Regulatory Audits

Attachment

cc: Michael Hobbs
Duane Henderson
Erik Markell
Bert Valdman
Sue McLain
Karl Karzmar

Docket # 080031

HOS valves inspected late from 2005-2007

	ADDRESS	ZIP	2005 PCI	2006 PCI	2007 PCI	Days Late
	502 Parksdale Ave	98327	5/18/2005	8/19/2006		1
	6318 144 St N"W	98332	5/16/2005	9/7/2006		22
	16 Swede-Hill Rd	98335	5/16/2005	9/7/2006		22
	1304 17th Ave	98345	4/25/2005	8/12/2006		17
	1205 19th Ave	98354	4/25/2005	8/12/2006		17
	1702 Minton Way	98354	4/25/2005	8/12/2006		17
	2001 Milton Way (Classroom)	98354	4/25/2005	8/12/2006		17
	2001 Milton Way (Gym)	98354	4/25/2005	8/12/2006		17
	2306 Milton Way	98354	4/25/2005	8/12/2006		17
	2003 Taylor St	98354	4/25/2005	8/12/2006		17
	2006 Taylor St	98354	4/25/2005	8/12/2006		17
	1015 13th St SW	98371		7/18/2006	12/14/2007	26
	1110 W Pioneer Ave	98371		7/18/2006	12/14/2007	26
	407 14th Ave SE	98372	4/26/2005	8/12/2006		16
	407 14th Ave SE	98372	4/26/2005	8/12/2006		16
	502 14th Ave SE	98372	4/26/2005	8/12/2006		16
	402 14th Ave SE	98372	4/26/2005	8/12/2006		16
	101 N E St	98403	7/20/2005	10/25/2006		5
	110 N E ST	98403	7/20/2005	10/25/2006		5
	111 N E ST	98403	7/20/2005	10/25/2006		5
	111 N E ST	98403	7/20/2005	10/25/2006		5
	111 N E ST	98403	7/20/2005	10/25/2006		5
	7520 25 Ave E	98404	7/18/2005	10/19/2006		1
	1115 Division Ln E	98404	7/13/2005	10/19/2006		6
	1115 Division Ln E (Gym)	98404	7/13/2005	10/19/2006		6
	1024 E 34 St	98404	7/13/2005	10/16/2006		3
	1301 E 34 St	98404	7/13/2005	10/16/2006		3
	601 E 35 St	98404	7/13/2005	10/16/2006		3
	860 E 38 St	98404	7/13/2005	10/16/2006		3
	1427 E 40 St	98404	7/13/2005	10/16/2006		3
	0126 E 60 St	98404	7/15/2005	10/16/2006		1
	1140 E 65 St	98404	7/18/2005	10/19/2006		1
	3526 E B St	98404	7/13/2005	10/16/2006		3
	702 E Harrison St	98404	7/13/2005	10/16/2006		3
	3702 McKinley Ave E	98404	7/13/2005	10/21/2006		7
	6317 McKinley Ave E	98404	7/15/2005	10/16/2006		1
	1223 Martin Luther King	98405	7/25/2005	10/30/2006		5
	1301 Martin Luther King	98405	7/21/2005	10/30/2006		9
	2136 Martin Luther King	98405	7/20/2005	10/26/2006		6
	2156 Martin Luther King	98405	7/20/2005	10/26/2006		6
	423 Martin Luther King	98405	7/25/2005	11/1/2006		6
	315 Martin Luther King	98405	7/25/2005	11/1/2006		6
	1229 Morelands Dr S	98405	7/22/2005	10/23/2006		1
	1212 S 11 St	98405	7/25/2005	11/1/2006		6
	3824 S 11 St	6/2/2169	7/22/2005	10/23/2006		1

PSE PG-080031

CP remediate after 90 days

EPCR Notification	Date Found	Date Remediated	Days Between	Remediation	Comments
10629974	3/21/2006	8/1/2007	490	replaced	
10630467	3/21/2006	8/1/2007	490	replaced	
10625438	3/30/2006	4/21/2007	381	replaced	
10626162	4/4/2006	6/18/2008	794	replaced	
10630719	5/8/2006	6/29/2009	1131	(-1400 mV)	Date fixed is NEXT year
10652348	6/23/2006	9/30/2006	97	(-1500 mV)	
10635979	6/23/2006	1/31/2007	218	(-950 mV)	
10637651	7/7/2006	8/20/2007	403	(-1400 mV)	
10646419	8/1/2006	1/22/2007	171	(-1402 mV)	
10653871	8/7/2006	12/29/2006	142	(-1100 mV)	
10653873	8/9/2006	12/29/2006	140	(-1100 mV)	
10653874	8/9/2006	12/29/2006	140	(-1100 mV)	
10790357	8/22/2006	12/22/2006	120	replaced	
10649079	9/12/2006	1/22/2007	130	(-1369 mV)	
10721890	11/8/2006	3/7/2007	119	replaced	
10727561	11/8/2006	3/1/2007	113	replaced	
10660619	12/13/2006	8/20/2007	247	(-1400 mV)	
10661022	12/14/2006	3/14/2007	90	(-1111 mV)	
10711536	1/2/2007	8/7/2007	215	(-1023 mV)	
10711535	1/2/2007	11/19/2007	317	(-1333 mV)	
10723945	1/23/2007	8/29/2007	216	(-950 mV)	
10717089	2/1/2007	5/11/2007	100	replaced	
10717287	2/2/2007	6/20/2007	138	replaced	
10718189	2/9/2007	8/1/2007	172	replaced	
10718232	2/9/2007	8/1/2007	172	replaced	
10718423	2/12/2007	10/24/2008	612	Scheduled?	This one is scheduled.
10719904	2/20/2007	6/27/2007	127	(-1318 mV)	
10733224	2/24/2007	6/16/2007	112	(-1218 mV)	
10722015	3/12/2007	7/13/2007	121	replaced	
10723149	3/13/2007	7/13/2007	120	replaced	
10799165	3/16/2007	3/20/2008	364	(-1576 mV)	
10724863	3/26/2007	6/27/2007	91	(-1220 mV)	

PUGET SOUND ENERGY

LEAK WORK ORDER

FIELD INITIATED

SECTION 1 - PROJECT DATA	PROJECT ID	COMPLETE ON OR BEFORE	PLAT MAP
	N00252500 001		223-042

HOUSE: 12915 | 1/2: 60 AV CT NW | STREET: GIG HARBOR | AREA:

INSTRUCTIONS:

LEAK HISTORY C.P. AREA: ☐ YES ☐ NO ORIG GRD ____ LK ORIG ____ METH DET ____ PRESS ____
RPT SOURCE ____ MAIN ____ SVC ____ BUS DIST? ____ U/P? ____ ORIG RPT DATE ____

LOC/CGI READS:

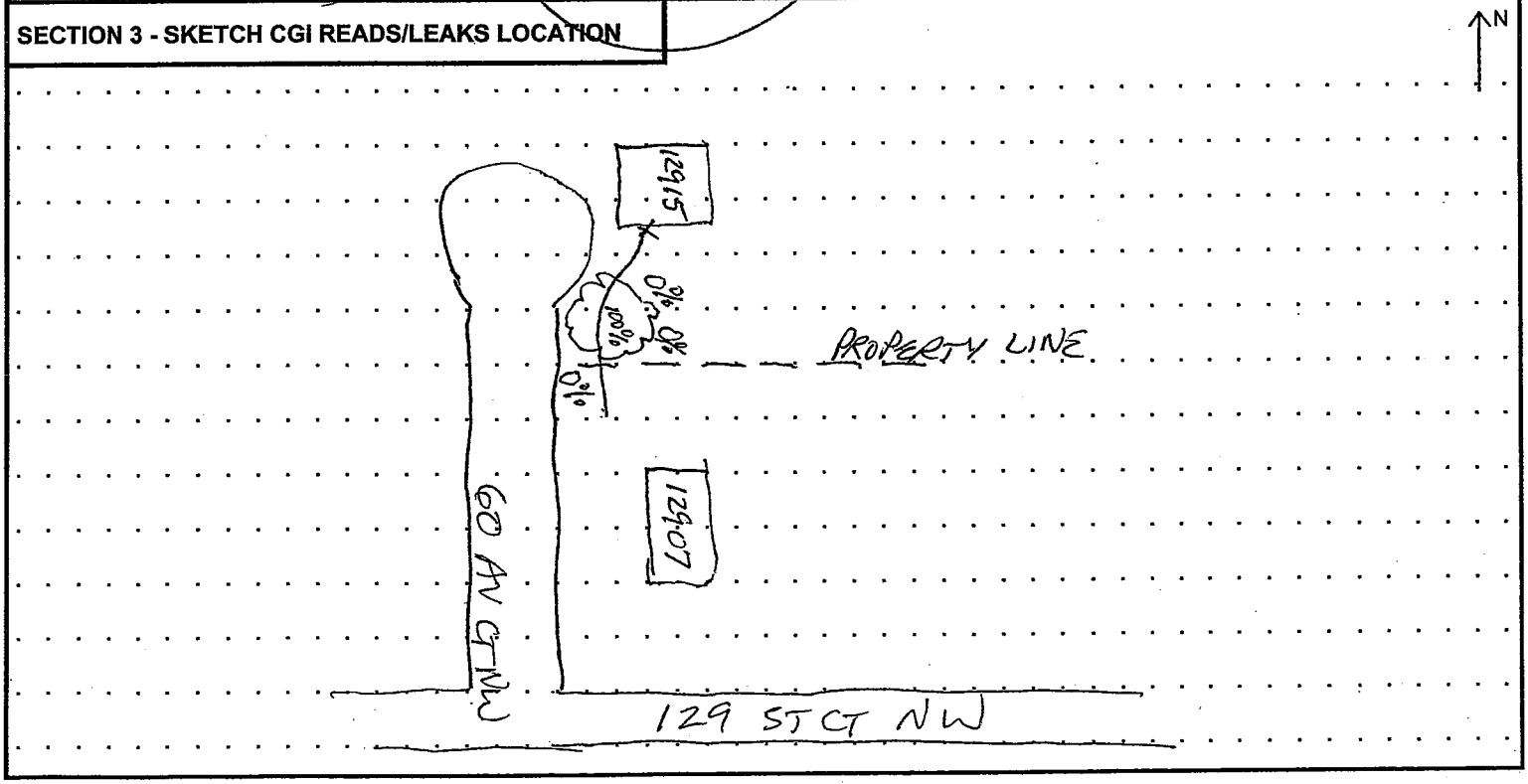
SECTION 2 - FIELD RESPONSE AND REPAIR DATA

FIELD RESPONSE		FINAL REPAIR ONLY	
GRADE FOUND: A	GRADE LEFT: O	PIPE MATERIAL: P	SIZE: 58
RESPONSE TYPE: L	RESPONSE COMPANY: PSE	FACILITY TYPE: E	YR INST:
RESPONDER NAME: CHUCK MULHOLLAND / ROY MCOMBER	EQUIPMENT ID NUMBER: 4829	BELOW GRADE: ☒ YES ☐ NO	CP READS: PSP
ARRIVED DATE: 3/2/07	ARRIVED TIME: 17:05	LEAK COMPONENT: A	CAUSE: B
FINISHED DATE: 3/2/07	FINISHED TIME: 18:40	RE-CHECK? ☐ YES ☒ NO	DATE: / /
REPAIR TYPE: D	QUANTITY: 1	FOLLOW-UP? ☐ YES ☒ NO	DATE: / /

PRESSURE TEST BY | DATE | HRS | MIN | PRESSURE [redacted] ☐ WATER ☐ NITROGEN ☐ SOAP

LOC/CGI READS:
100% GAS IN HOLE OVER SERVICE THAT WAS NICKED WITH A SHOVEL
25' EAST OF CENTER LINE OF 60 AV CT NW AND 15' NORTH OF PROPERTY LINE OF 12907 60 AV CT NW
IN THE GARDEN AREA OF YARD - NO SPREAD

SECTION 3 - SKETCH CGI READS/LEAKS LOCATION



Leak Work Order

Date Printed: 04/23/2007

SECTION 1:	Project Id:	N0025830 1	Complete on or Before	04 /20 /2007	AREA:	315
House 1/2 Street					PLAT MAP:	238051
2442 N NARROWS DR						

Originally Reported Date: 04 /20 /2007 **Source:** Public

SECTION 2 - LEAKAGE: Grade A Repair - End of Time Limit 1865442950P

Leak History: C P Area? _ Repl. Planned? _ **Original Leak Grade** A

Leak Origin : J-Other **Method Detecte** B-Odor

Orig. Loc/Cgi: Broken and blowing 3/4" stw service/ Pilchuck to make repair

APR 24
CORLA ANN SHE

Field Response Data: ! Grade Found BA ! Grade Left : Ø **Excavation Only :**

! Response Type: _____ >Pipe: >Materia S >Size 1¼/3/4

! Response Co : PCL >Facility: >Type E >Yr Inst 1964

! Responder Name: Lynch !Equip Id 5022 >Below Grade: X Yes __No CP Reads 1.60V psp

! Arrived Date : 4 /20/ 07 !Time 14:00 >Leak: >Component A >Cause B

! Finished Date : 4 /20/07 !Time 18 :30 * Recheck? __ Yes X No Date __/__/__

Repair Type: D #Qty 1 Followup? __ Yes X No Date __/__/__

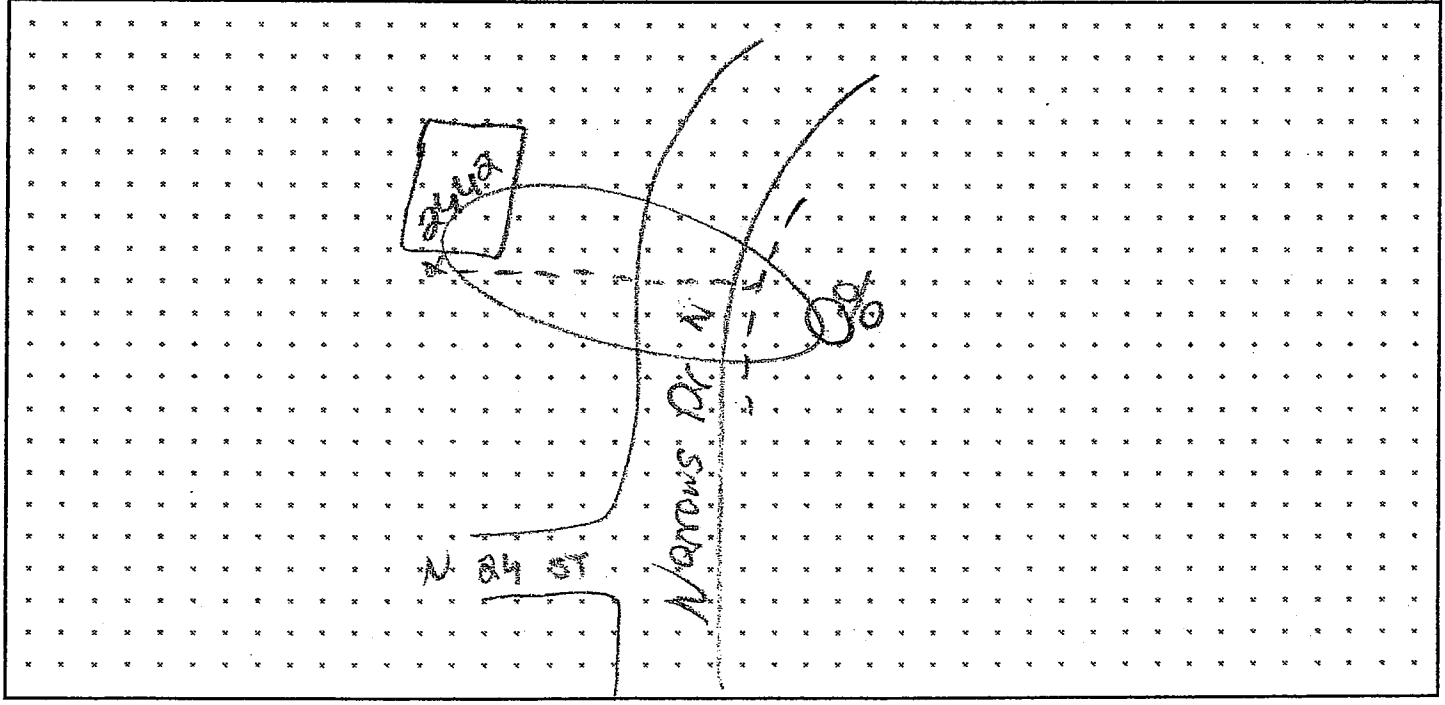
+ [redacted]

+ - Required for Response Type R(Repair) & Repair Type D(Replace) (Type: __ Air __ Gas __ Water __ Nitrogen __ Soap)

! Loc Cgi Reads Remaining / Comments: NO leaks remain replaced SIC

! - Required for all Work Orders. * - Use 24 Hour Clock # - Required for Response Type R(Repair). > - Required for all Repair Type A-G&S.

SECTION 3 - SKETCH CGI READS / LEAKS LOCATION N ^



PUGET SOUND ENERGY

1865444315
N0025673
226-69-767

CAS per Ums
N0025891 001

LEAK WORK ORDER

FIELD INITIATED

SECTION 1 - PROJECT DATA	PROJECT ID	COMPLETE ON OR BEFORE	PLAT MAP
	~~N0025673~~	4/30/07	238.051

HOUSE	1/2	STREET	AREA
2415		NARROWS DR	TAC

INSTRUCTIONS

LEAK HISTORY C.P. AREA: ☐ YES ☒ NO ORIG GRD A LK ORIG 5 METH DET B/A PRESS —
RPT SOURCE 11 MAIN — SVC X BUS DIST? A U/P? — ORIG RPT DATE 4/30/07

LOC/CGI READS

SECTION 2 - FIELD RESPONSE AND REPAIR DATA

FIELD RESPONSE

GRADE FOUND	GRADE LEFT
A	~~C~~

RESPONSE TYPE	RESPONSE COMPANY
R	PSE

RESPONDER NAME	EQUIPMENT ID NUMBER
F. MILLER	5413

ARRIVED DATE	ARRIVED TIME
04/30/07	11 :10

FINISHED DATE	FINISHED TIME
04/30/07	13 :10

REPAIR TYPE	QUANTITY
D	1

PRESSURE TEST BY	DATE	HRS	MIN
[redacted]			

PRESSURE ☐ AIR ☐ GAS ☐ WATER ☐ NITROGEN ☐ SOAP

FINAL REPAIR ONLY

PIPE MATERIAL	SIZE
PE	5/8

FACILITY TYPE	YR INST
SVC	1975

BELOW GRADE	CP READS
☒ YES ☐ NO	— PSP

LEAK COMPONENT	CAUSE
A	B

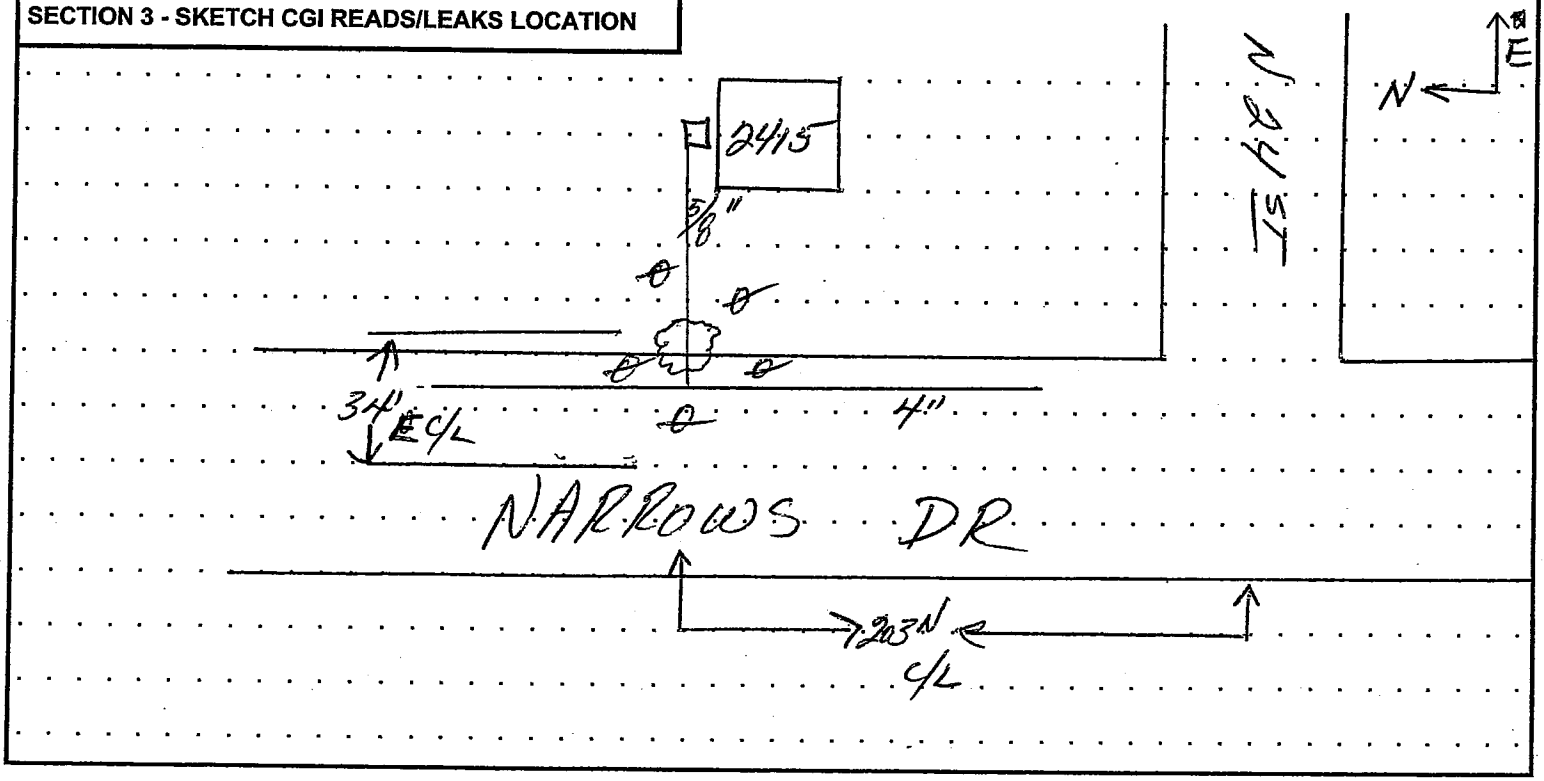
RE-CHECK?	DATE
☐ YES ☒ NO	04/30/07

FOLLOW-UP?	DATE
☐ YES ☒ NO	04/30/07

LOC/CGI READS

0 LEFT REPLACED 4' 5/8 PE @
203'N & 34'E &
(N24ST) (NARROWS DR.)

SECTION 3 - SKETCH CGI READS/LEAKS LOCATION



PUGET SOUND ENERGY

LEAK WORK ORDER

FIELD INITIATED

SECTION 1 - PROJECT DATA	PROJECT ID	COMPLETE ON OR BEFORE	PLAT MAP
	N00259962-001	05-03-07	238-051

HOUSE: 1754 | 1/2: N. | STREET: Narrows Dr. | AREA: 315

INSTRUCTIONS:

LEAK HISTORY C.P. AREA: ☐YES ☐NO ORIG GRD____ LK ORIG____ METH DET____ PRESS____
RPT SOURCE____ MAIN____ SVC____ BUS DIST?____ U/P?____ ORIG RPT DATE____

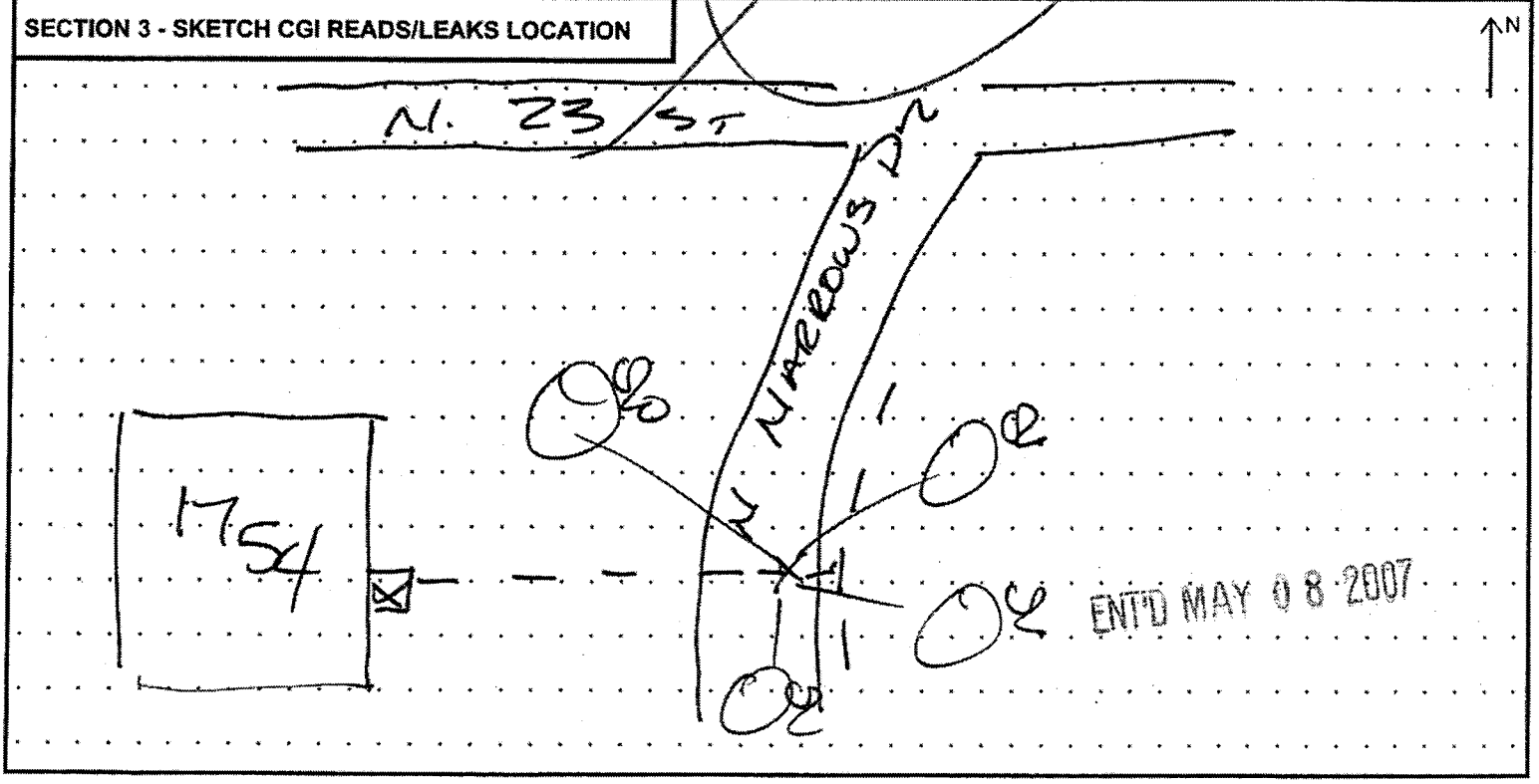
LOC/CGI READS: Broken SVC

SECTION 2 - FIELD RESPONSE AND REPAIR DATA

FIELD RESPONSE		FINAL REPAIR ONLY	
GRADE FOUND: A / GRADE LEFT: O		PIPE MATERIAL: P	SIZE: 58
RESPONSE TYPE: R	RESPONSE COMPANY: PSE	FACILITY TYPE: E	YR INST: 1979
RESPONDER NAME: Marshall	EQUIPMENT ID NUMBER: 3759	BELOW GRADE: ☑YES ☐NO	CP READS: PSP
ARRIVED DATE: 05/03/07	ARRIVED TIME: 15:14	LEAK COMPONENT: A	CAUSE: B
FINISHED DATE: 05/03/07	FINISHED TIME: 15:59	RE-CHECK?: ☐YES ☑NO	DATE: / /
REPAIR TYPE: D	QUANTITY:	FOLLOW-UP?: ☐YES ☑NO	DATE: / /
PRESSURE/TEST BY: [redacted]	DATE	HRS	MIN
PRESSURE			☐GAS ☐WATER ☐NITROGEN ☐SOAP

LOC/CGI READS: 0 READS REMAIN. REPLACED 1' of 5/8" PE @ 55' S & of N 23 ST & 14' E & of N. Narrows Dr.

SECTION 3 - SKETCH CGI READS/LEAKS LOCATION



ENT'D MAY 08 2007

PUGET SOUND ENERGY
The Energy To Do Great Things

LEAK WORK ORDER

FIELD INITIATED

SECTION 1 - PROJECT DATA	PROJECT ID	COMPLETE ON OR BEFORE	PLAT MAP
	N0026824 001	3/19/08	223042

HOUSE 1/2 STREET AREA
12806 62ND AVE NW # 1 98332 GIG HARBOR

INSTRUCTIONS
RESPONDED TO BROKEN AND BLOWING

LEAK HISTORY
C.P. AREA? ☐ YES ☒ NO ORIG GRD A LK ORIG S METH DET B PRESS
RPT SOURCE P MAIN SVC X BUS DIST? NO U/P? NO ORIG RPT DATE 2/19/2008

LOC/CGI READS
72 FT WOL OF 62ND ST NW 53' SCL DRIVE WAY

SECTION 2 - FIELD RESPONSE AND REPAIR DATA

FIELD RESPONSE

GRADE FOUND	GRADE LEFT
A	0

RESPONSE TYPE	RESPONSE COMPANY
R	PSE

RESPONDER NAME	EQUIPMENT ID NUMBER
KAMPHAUS	3002 KM

ARRIVED DATE	ARRIVED TIME
2/19/08	2:54PM

FINISHED DATE	FINISHED TIME
2/19/08	1700 KM

REPAIR TYPE	QUANTITY
D	1

PRESSURE TEST BY DATE HRS MIN

FINAL REPAIR ONLY

PIPE MATERIAL	SIZE
P	58

FACILITY TYPE	YR INST
E	1987

BELOW GRADE	CP READS
☒ YES ☐ NO	N/A PSP

LEAK COMPONENT	CAUSE
A	B

RE-CHECK?	DATE
☐ YES ☒ NO	2/19/08

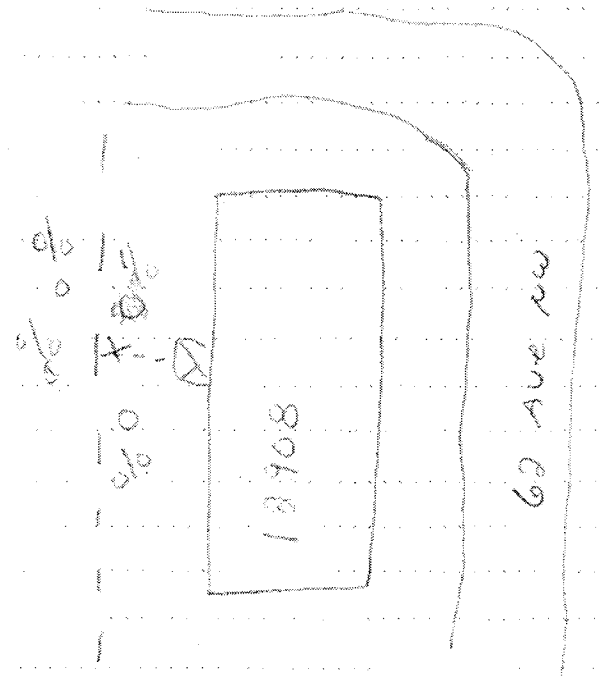
FOLLOW-UP?	DATE
☐ YES ☒ NO	2/19/08

PRESSURE [redacted] ☐ AIR ☐ GAS ☐ WATER ☐ NITROGEN ☒ SOAP

LOC/CGI READS
72 FT WOL OF 62ND ST NW 53' SCL DRIVE WAY ZERO READS REMAIN SCOPE NUMBER 3002 PILCHUCK FUS

SECTION 3 - SKETCH CGI READS/LEAKS LOCATION

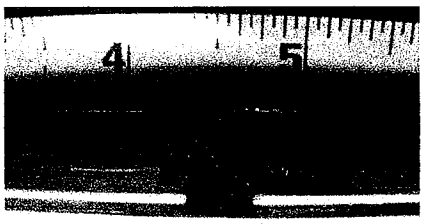
N



SECTION 4 - SKETCH DAMAGE AND DIMENSIONS ON PIPELINE

Leak Cause Code Clarifications

By Jae Pfeffer (81-3715)



Cause Code C:
Animal Damage

Did you know that the cause code selected on a Leak Work Order is used by other departments? Standards is one of those departments that uses the cause code to decide which failures need to be reported to the Washington Utilities and Transportation Commission and for information during the process of analyzing the failure.

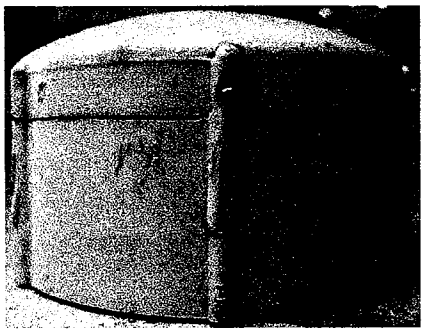
Cause code selection can be challenging. Below is a description of each and some examples.

B. Excavation is the code used to indicate any sort of damage caused by digging.

- Dig-ins. Examples: "Broken," "broken and blowing," and "found service bent over and taped."
- Damage caused by accident when the trench was open. Example: A backhoe that clips a piece of asphalt that flies into an open trench and damages a pipe.
- Obvious damage caused by someone, belowgrade, that is discovered later, most likely while digging. Example: Finding a homemade repair.

C. Natural Force is the code used to indicate damage because of nature. Generally you will not be able to sue someone for negligence.

- Animal damage. Example: Hole in PE caused by rat.
- Vegetation. Example: Crushed by tree roots.
- Ground settling.



Cause Code D:
Service Tee Cap with
Damage from Overtorquing
(wrench marks visible)

D. Operations is the code used to indicate an incorrect installation or poor workmanship.

- Incorrect installation. Example: "EFV installed backwards."
- Poor workmanship. Example: "Replaced leaking service tee cap that was overtightened and cracked."

E. Material or Welds is the code used to identify a fusion or weld repair/replacement, even if it could be coded as something else. This code also includes any part that fails in the system due to obvious manufacturer defect.

- Fusion. Examples: Cracked fuse, uneven fusion bead, and insufficient rollback.
- Weld. Examples: Girth welds, seam welds, and cracked welds, regardless if they were done at the factory or in the field.
- Material. Examples: Rock impingement or crack on DuPont pipe and part that has a leak because of a manufacturing defect that may not have been obvious when the part was installed.

F. Other is the code that should only be used when a part has exceeded its service life or you really do not know why it failed and it fits in no other category.

- Exceeded service life.

Cause Code E:
Rock Impingement or
Crack on DuPont Pipe

G. Equipment is the code used when equipment leaks and it is repaired or replaced.

- Repaired equipment by operating, tightening, and/or greasing. Examples: "Greased valve to zero leak," "tightened cap," and "redoped threads."
- Replacement of parts that are not aged or not an apparent installation problem. Examples: "Replaced bolt-on tee"and "leaking valve replaced."

H. Outside Force Damage is the code used when there is aboveground damage that has been caused by someone. Typically you could hold someone responsible for the damage.

- Accidental damage. Examples: "Car backed into MSA" and someone sat on manifold and broke it.
- Damage from some other event not related to excavation. Examples: House fire and MSA pulled loose because it was used as a garden hose stand.

I. Non-Exposed Pipe is the code used when the leak is repaired without finding the specific leaking section or component.

- Main replacement jobs that zero leaks.
- Repair by replacing the entire service.

PSE Leak Cause Codes (Reference Sheet with Examples)

By Ron Easley (81-3721)

The following table is provided as a reminder of the PSE defined cause codes in the left column and a clarification of the code in the right column with some examples. A cause code is required for every Leak Work Order completed.

Please keep this removable insert as a desk or field reference. If you have any questions or would like to discuss the application of cause codes, please contact Jae Pfeffer at 81-3715 or Ron Easley at 81-3721.

A leak is an unintentional escape of gas through a hole or crack in the pipeline or pipeline component (valve, tee, etc.).

Leak Cause Codes Information (as listed in Form 2022)	Examples
B. Excavation - Damage caused by earth moving equipment, tools or vehicles including leaks from damage by operator's personnel or contractor, or people not associated with the contractor.	Anything trench-related (i.e., even a back-hoe driving by a trench causing an asphalt chunk to fall on a pipe and cause a leak fits in this category). Anything that would be considered third-party damage.
C. Natural Force - Earth movements, earthquakes, landslides, lightning, heavy rains/floods, washouts, flotation, scouring, temperature, frost heave, frozen components and high winds.	Anything that cannot be attributed to any human cause or decision or that has no person or group that could be held legally liable (i.e., damage caused by gnawing voles fits in this category, a poorly placed unstable piece of equipment that tips over on to aboveground piping does not).
D. Operations - Inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error.	Not following proper procedures or standards for pipeline inspection, maintenance, or construction (i.e., leaks caused by improper: meter set change-out, backfill and compaction, service tee tapping, etc.).
E. Materials or Welds - Failed fuses, rock impingement, faulty wrinkle bends, faulty field welds and damage sustained in transportation to the construction or fabrication site, defect in the pipe material, component or the longitudinal weld or seam due to faulty manufacturing procedures.	This includes leaks of any cause types listed to the left, or other similar origins, when all proper procedures and standards were followed (i.e., anything where the cause is linked to a faulty material).
F. Other - Exceeding the service life, material deterioration (other than corrosion), any of the other causes not attributable to the other identified causes.	
G. Equipment - Malfunction of control/relief equipment including valves, regulators or other instrumentation; stripped threads or broken pipe couplings on nipples, valves or mechanical couplings; or seal failures on gaskets, O-rings, seal/pump packing or a similar leak.	Any leak caused by failure of any of the equipment listed to the left, or other similar devices. Any leak that can be repaired by maintenance procedures that do not replace any component, or add any device to the system (i.e., greasing valves, redoping pipe threads, tightening bolts or fittings).
H. Outside Force Damage - Fire, explosion and deliberate or willful acts, such as vandalism.	Intentional as well as unintentional acts (i.e., vehicular accidents, damage by the general public).
I. Non-Exposed Pipe - Replacement/Retirement when pipe is not exposed.	Hole-hogging or direct burying a new gas service as a replacement for a leaking one, main replacement jobs which retire any leaking main or service.
A corrosion leak is one in a pipeline or pipeline facility resulting from galvanic, bacterial, chemical, stray current action, or other corrosive actions. Common indicators of corrosion are pitting on metallic pipe and graphitization of cast iron.	
J. Corrosion, Disbonded STW - Any leak resulting from corrosion on pipe with disbonded wrap.	
K. Corrosion, Low PSP STW - Any leak resulting from corrosion on STW pipe with a PSP reading less than -.85 volts.	
L. Corrosion, Unknown STW - Any leak resulting from corrosion on STW pipe with proper bonding and PSP reads.	
M. Corrosion, Bare Pipe - Any leak resulting from corrosion on uncoated pipe.	