City of Buckley
P.O. Box 1960 • Buckley, WA 98321 • (360) 829-1921 ext. 200

July 21, 2011

David D. Lykken
Pipeline Safety Director
WUTC
PO Box 47250
1300 S. Evergreen Park Dr. S.W.
Olympia, WA 98504-7250

SUBJECT: Response to 2011 Natural Gas System Safety Inspection
Docket PG - 110039

Dear Mr. Lykken,

Thank you for providing the recent report listing areas of concern and/or probable violations related to the natural gas system safety inspection conducted by pipeline safety staff in May, 2011. The City has reviewed these concerns, recommendations and/or potential violations and is providing the following in response to these issues;

As a forward to our response I would like to clarify that the City is a small natural gas system that has a limited number of employees as WUTC is well aware. For the inspection years 2009-2010 the City employed three gas system operators consisting of a Lead Operator (Bob Butcher) and two apprentices who were undergoing a 24 month apprenticeship program. Early in 2009 the City's Lead Operator was diagnosed with a terminal illness which progressed vary rapidly. This rapid deterioration of his health left the City with the loss of extremely valuable knowledge, skill and experience in operation of the system and training of inexperienced apprentices. While we moved forward with recruitment and hiring of a replacement this process took time and once we had a replacement it took additional time for this individual to get up to speed and become familiar with the system's operation. It was during this illness and subsequent transition that delays and oversights in normal operational functions occurred.

Thankfully the City has put this period behind us and we are currently operating at a higher level than occurred during 2009-2010. The City now has an OQ qualified Lead, a journey level operator and an operator apprentice. We do not foresee having this problem in the future.

Areas of concern/recommendation:

1. **49 CFR § 192.617: Investigation of failures.** Page 147 of the City's current Natural Gas Operation & Maintenance Manual provides;

   Investigation
   If deemed appropriate, an investigation shall be made to determine the causes of the emergency and steps taken to minimize the possibility of a recurrence. Outside experts should be consulted if necessary.

   Employee activities should be reviewed to determine whether these procedures were effectively followed to determine possible procedure revisions, or additional training of personnel.

   This provision has been part of the City's O&M Manual for several years and gone through numerous prior inspections. However now that the City has been made aware that we need additional detail we are currently drafting procedures that will be incorporated into the O&M Manual as a management of change item. Our goal is to have all of the updates/changes made to O&M Manual by August 30, 2011 at which time copies will be forwarded to WUTC.

   WAC 480-93-188 – Gas Leak Surveys: See response to Probable Violation #2. Due to the error in failing to immediately leak survey those lines that had been identified as being located inaccurately, we are currently drafting a more detailed "self audit" checklist that will be incorporated into the O&M Manual as a management of change item. Our goal is to have all of the updates/changes made to O&M Manual by August 30, 2011 at which time copies will be forwarded to WUTC.

2. **WAC 480-93-180 - Plans and Procedures.**

   Item #1- The findings listed within the inspection report state "the definitions for grading internal and external corrosion could not be located in the O&M manual. Classification like "Good" or "Great" are very subjective and vary from person to person".

   While the City agrees with the concept of subjective evaluations and use of terms "Good" or "Great" we don't understand why these terms were used to describe our procedure. On page 93 of our O&M Manual under Corrosion Inspection we have one section for internal corrosion control inspections and one for external corrosion control. The internal section provides;

   An internal corrosion inspection shall be made whenever a section of pipe is removed from the system, the internal surface must be inspected for evidence of corrosion. This includes sections of pipe, and tap coupons. If internal corrosion is found:

   1. *The adjacent pipe must be investigated to determine the extent of internal corrosion;*
   2. *Replacement must be made to the extent required by the applicable regulation; and*
   3. *Steps must be taken to minimize the internal corrosion.*

A record of these inspections must be kept. An example is shown in Table VIII.A.

The section provides a footnote that reference § 192.475 Internal corrosion control: General.

The external section provides;

Whenever a portion of the pipeline becomes exposed, it must be examined for evidence of external corrosion or coating deterioration. If corrosion requiring remedial action is found, the pipe shall be investigated circumferentially and longitudinally beyond that area to determine whether additional areas requiring remedial action exist in the vicinity. Except for cast iron or ductile iron pipe, each segment of generally corroded distribution line pipe with a remaining wall thickness less than that required for the MAOP of the pipeline, or a remaining wall thickness less than 30 percent of the nominal wall thickness, must be replaced. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe. Each segment of distribution line pipe with localized corrosion pitting to a degree where leakage might result must be replaced or repaired.

Repair shall include at a minimum cleaning and coating and shall be undertaken within 90 days. Coating is not required where it is proven that the corrosion will;

1. *Only be a light surface oxide; or*
2. *Not affect the safe operation of the pipeline before the next scheduled inspection.*

A record of these inspections must be kept. An example is shown in Table VIII.B.

The section also provides a footnote that references § 192.459 - External corrosion control.

While the City was not able to find any references to subjective evaluation criteria in the listed sections above or to specific grading requirements under Federal Code we are willing to develop a grading system for degree of corrosion. Now that the City has been made aware that we need additional detail we are currently drafting procedures that will be incorporated into the O&M Manual as a management of change item. Our goal is to have all of the updates/changes made to O&M Manual by August 30, 2011 at which time copies will be forwarded to WUTC.

Item #2 - The City is unsure about what is meant by the wording in this statement. We request clarification.

Probable Violations

1. **WAC 480-93-170 - Tests and reports for pipelines.**

Page 65 of the City's current Natural Gas Operation & Maintenance Manual provides;

Equipment (Manometer)
Pressure testing equipment (Manometer) must be maintained, in accordance with the manufacturer's recommendations. When there are no manufacturer's recommendations, then pressure testing equipment must be tested for accuracy at an appropriate schedule determined by the operator. Test equipment must be tagged with the calibration or accuracy check expiration date. 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.

The City staff complies regularly with the procedural requirements of WAC 480-93-170 (1-10) but failed to record the proper functioning of the two pressure chart recorders in 2009 and 2010.

2. **WAC 480-93-018 - Records.**

Mapping: The City recently became aware through the diligence of our new Lead Operator that there were inconsistencies between the City's Master System map and the individual map cards kept on file. Upon discovery the Gas Lead began a systematic process of physically relocating mains and services to reconcile the maps and cards. He kept handwritten records of these inconsistencies that were to be used later for an update the overall system map. None of the pipe lines and/or services marked and noted on the Gas Leads map were transferred to the system map or leak surveyed prior to the safety inspection.

Each of the identified areas were leak surveyed prior to the exit interview, but were not transferred to the City's Master System map. We are now in the process of doing so and many of these areas have been re-evaluated and turned over to the City engineer for mapping.

However, due to the number of errors discovered the City believes that it will be necessary to expend the time and effort to relocate "all" mains and services in the City to verify locations. Our goal is to have this accomplished in the next six months starting with the highest class areas first and working down from there.

3. **WAC 480-93-185 - Gas leak investigation.**

Response to leak investigation(s) at 157 E. Mason:

1st Complaint 2/17/11 - The City received an odor complaint from the owner of 157 E. Mason at 3:55 p.m. on 2/17/11. At that time the operator was informed that the owner would not be available to allow access until the following day at 12:00 p.m. The operator scheduled this time with the owner to leak survey the residence for any possible leaks. Upon investigation at 12:00 p.m. on 2/18/11 the responding operator discovered that the gas meter to the residence was turned off and the residence was not being lived in; however a plumber had replaced a shutoff valve to the furnace. There was no natural gas detected using the Sensit Gold CGI.

The operator failed to respond immediately upon initial notification and at the minimum conduct an external survey of the surrounding property and buildings even though they knew that would be unable to access the residence until the following day.

2nd Complaint 3/18/11 - The City 911 Dispatch Center received an odor complaint from the renter of 157 E. Mason at 7:49 a.m. on 3/18/11. Upon receiving the complaint the dispatch center notified the police department who responded to the complaint. The police report on the call indicates that the officer was dispatched to the residence at 7:50.25 a.m. and arrived on scene at 7:55 a.m. The officer sniffed tested the air but was not able to detect a gas odor.

Contrary to the City's emergency response guidelines the PW Department was not dispatched to the residence until 10:21 a.m. at which time the operator investigated the complaint and was unable to detect natural gas using the Sensit Gold CGI. The operator did however get a .9% methane reading.

Page 143 of the City's O&M Manual under Emergency Plan provides;

B. Receiving Emergency Calls
The City of Buckley maintains a 24 hour a day phone number for the gas system and other City utility emergencies (360) 829-1631. The person receiving the emergency call should get as much information as possible including:

1. *Name of caller*
2. *Address of caller*
3. *Location of emergency*
4. *Nature of emergency*
5. *Contact phone number*

Based on this information, appropriate gas utility personnel on the Emergency Contact List will be contacted to respond to the call. Fire and Police officials shall also be informed of the emergency as the situation warrants. Response to emergency calls shall be given top priority by gas utility personnel.

Section E on "Emergency Response" reiterates this by stating "*First responders within the City consist normally of either fire or police department personnel. Calls for emergencies, odor complaints and/or leaking gas are normally made to and received by the City's 911 Dispatch Center. Once a call comes in, first responders are dispatched to the scene. In addition to first responders the Center operator(s) will dispatch the on-call PW Department employee to the emergency, as well.*"

In this case the dispatcher receiving the odor complaint was a new part-time dispatcher and even though the emergency call-out procedures are available in the dispatch office, the dispatcher failed to contact appropriate gas utility personnel.

Leak investigation at 1408 Main Street: Leak survey by 1408 Main Street was conducted by Heath on 3/10/09 at 13:30 p.m. Heath identified a leak near the street

curb face within the public right-of-way in front of 1408 Main Street. Heath completed a leak survey form identifying 10% natural gas and graded it as a Class III leak pursuant to Table XI.D "Grade 3 Leak Criteria". A City operator was present at the time of detection. At 13:45 p.m. the City's Lead Operator arrived on scene, evaluated the leak and concurred that it was a Grade III leak pursuant to Table XI.D "Grade 3 Leak Criteria". Based on judgment and hazard assessment the Lead Operator deferred the leak for further evaluation. Pursuant to Table XI.D "Grade 3 Leak Criteria" and WAC 480-93-18601(3)(a) the leak was re-evaluated in 10 months and 17 days. At that time the operator conducting the re-evaluation detected a natural gas reading of 5%. On 4/7/10 the leak was repaired within 13 months of the reporting date.

O&M Manual (pg 115)

Leak grades
Based on an evaluation of the location and/or magnitude of a leak, one of the following leak grades shall be assigned, thereby establishing the leak repair priority.

Leakage classification and control requirements are provided in the following tables. The examples of leakage provided in Tables XI.B, XI.C and XI.D listed below are guidelines and are not exclusive. The judgment of the gas personnel at the scene is of primary importance in determining the grade assigned to a leak.

Table XI.D – Grade 3 Leak Criteria

GRADE 3 A leak that is non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous.	
PRIORITY OF LEAK REPAIRS	EXAMPLES
Grade 3 leaks should be re-evaluated during the next scheduled survey, or within 15 months of the reporting date, whichever occurs first, until the leak is re-graded or no longer results in a reading.	Leaks requiring reevaluation at periodic intervals: 1. Any reading of less than 80% LEL in small gas associated substructures such as small meter boxes or gas valve boxes. 2. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building. 3. Any reading of less than 20% LEL in a confined space. *Note: LEL for the system is 5% gas in air

First responder information: The City of Buckley Gas Department conducts a meeting annually with Fire & Police officials to review and develop response procedures to ensure that practices and policies #1 work and #2 meet Federal & State guidelines. This has been ongoing for a number of years and the Emergency Plan has been revised several times in order to make the Plan more efficient.

The City's Emergency Plan for Natural Gas Emergencies is found in Chapter XIII of the City O&M Manual. Section B of the Plan on Page 143 specifies that once the dispatch center receives an emergency 911 call appropriate gas utility personnel will be contacted to respond. In addition fire and police will be notified which is standard 911 emergency operating procedure.

Section E on "Emergency Response" reiterates this by stating "*First responders within the City consist normally of either fire or police department personnel. Calls for emergencies, odor complaints and/or leaking gas are normally made to and received by the City's 911 Dispatch Center. Once a call comes in, first responders are dispatched to the scene. In addition to first responders the Center operator(s) will dispatch the on-call PW Department employee to the emergency, as well.*"

Section E on Equipment and Personnel goes on to state "*The dispatched PW Department employee should respond in the Gas Utility truck so that all needed system maps, valve locations maps, pipe locator, gas indicators, valve wrenches and other hand tools and repair supplies are on the scene when needed. The first responder shall call in additional personnel, including Fire and Police as appropriate for the situation.*"

Under the City's response guidelines for "gas leak", fire or explosion, and natural disasters the O&M Manual on pages 146-147 provides;

Gas Leak
In the event of a possible gas leak in or near a building or buildings, the first responder shall take the following actions;

1. *Protect life (A risk analysis must be considered by the responder(s) giving priority to a known imminent rescue); and*

2. *If an odor of gas appears to be coming from inside the building or enclosure, no one may enter the building until the gas concentration has been identified; and*

3. *If gas concentrations are then identified at less than LEL (3.8 to 6.5) then emergency personnel may enter the building and take actions to dissipate the gas including but not limited to turning off the service meter, ventilating the building by opening doors and windows and/or other appropriate measures; or*

4. *If gas concentrations have been identified at or above LEL (3.8 to 6.5) then emergency personnel will take steps to deny access, prevent entry, establish protective zones and implement protective measures that may include but not be limited to turning the service meter off and implementing vapor dispersion* ***without entering the building;*** *and*

5. *Once the gas meter has been shut-off the first responder should make contact with the on-call qualified PW Department employee who upon response will take action to stop gas from leaking at service tee shut-off, or at *Emergency Response Valves (ERVs), if necessary and begin an investigation to identify the source of the leak.*

**Note: Only qualified PW Department employees are authorized to shut-off service tees and/or ERV's. If a system shutdown or pressure reduction is required, closing ERVs should isolate the smallest area possible.*

6. *After gas supply has been shut-off, a determination should be made in the building and surrounding areas to make sure gas has dissipated. The first responder on the scene should keep an open line of communication with the Dispatch center and other emergency personnel responding to the scene.*

In the event of a possible gas leak outside, the first responder shall take actions consistent with Incident Priorities as follows:

1. *Protection of life;*
2. *Property conservation;*
3. *Incident stabilization;*
4. *Determine need to establish protective action distances.*

Fire or Explosion
In the event of a fire or explosion at or near a gas facility or pipeline, the first responder will make sure the Fire Department and PW Department has been dispatched and make provisions for protecting people and then property. If gas is burning but not causing danger to people or extensive property damage, it should be left to burn until the gas supply is shut off. If gas is escaping, and not burning, determine if gas has entered nearby buildings and initiate appropriate precautions in the area.

Natural Disaster
In the event of a natural disaster, qualified PW Department personnel should determine which sections of the gas system, if any, should be shut off. It will be necessary to shut off all meters in the affected area prior to restoring service. One section at a time will be restored and leak surveyed if necessary.

The Emergency Plan appears to state that upon notification the dispatch center will contact both PW Department personnel and Fire & Police. Since Fire & Police are on 24 hour duty and their response time is far less than the PW Department personnel, then they will normally be considered as the first responders. The response guidelines recognize this and allow first responders, should it be fire and/or police to take appropriate emergency action as authorized under State & Federal law. To our knowledge none of the actions allowed under the response guidelines are in violation of pipeline safety law. Therefore the City is requesting clarification of this probable violation so that we have an understanding about what the issue is with our procedures.

4. **49 CFR § 192.616 - Emergency plans.**

The City is consistently evaluating the effectiveness of its Public Awareness Program as identified in our "approved" Public Awareness Program. The PA Program is incorporated into the City's O&M Manual in Appendix X. Section E. of the Program

identifies the procedures for evaluating the effectiveness of the PA Program as follows;

E. Program Evaluation

1. Purpose. In order to measure the success and effectiveness of the Public Awareness program the City must perform ongoing evaluation of the Program. Evaluation of the Program will serve to;

- *a. Determine whether the program is effective in achieving the objectives of Section A & C; and*
- *b. Provide the City with information that will be used to update or revise the program to improve the effectiveness; and*
- *c. Provide documentation to demonstrate the City's compliance with Federal and State regulatory requirements.*

2. Evaluation Process. The City evaluation program is composed of the measures, means and frequency for tracking performance. The measures incorporate a process to ensure the implementation of the program and a program effectiveness element. Based on the results of the information obtained from these two elements the City can evaluate and make changes in the program to increase its effectiveness and achievement towards the objectives identified in Section A & C.

3. Measure of Program Implementation. Program implementation will be measured by performing an annual internal audit utilizing an assessment group comprised of the System Administrator, Public Works Superintendent, Gas Department Lead and Utilities Subcommittee Chairperson. In addition the implementation will be reviewed through biannual inspections by State and/or Federal Regulators. The internal review shall answer the following questions using the form found in Appendix X.2;

- *Has the Public Awareness Program been developed and written to address the objectives, elements and baseline schedule as described in API 1162; and*
- *Has the Public Awareness Program been implemented and documented according to the written program.*

4. Measure of Program Effectiveness. Effectiveness of the program will be measured to assess whether the actions undertaken in implementation of this program are achieving the intended goals and objectives. Measures used to assess the effectiveness shall be;

- *a. Is the information reaching the intended stakeholder audience? The program shall track the number of individuals and audiences reached within an intended group (e.g., affected public, emergency responders, local public officials and excavating companies) through documentation of information and material(s) distributed through the various delivery methods outlined Table C.5 for each respective audience.*
- *b. Are recipient audiences understanding the messages delivered? Messages to the target audiences should be developed in a clear and simple method that is easily understood. Measurement of the effectiveness and comprehension of the message will be obtained through a pre-test with the Utilities Subcommittee Members and through subsequent*

"targeted surveys" such as the example in Appendix X.3 sent to a defined sample audience within a stakeholder group.

c. *Are the recipients motivated to respond appropriately in line with the information provided? Response motivation is behavioral in nature and will be measured by assessing responses to questions included in the survey used in 4(c) above and by use of the following supplemental measures;*

   i. *Monitoring projects within the City to determine whether excavators are following through on all safe excavation practices in addition to calling One-Call; and*
   ii. *Observing whether there is an increase in locate requests from the One-Call Center following distribution of public awareness materials; and*
   iii. *Conducting an assessment of first responder behaviors in response to pipeline related calls and post-incident analysis to determine whether their actions were consistent with the key messages included in the public awareness communications; and*
   iv. *Incident follow-up tracking to assess whether an actual incident that affected residents was correctly identified and whether reported and personal safety actions undertaken were consistent with public awareness communications.*

d. *Is implementation of the program affecting bottom-line results? The primary measure used to determine "bottom-line" results of the effectiveness of the public awareness program is the change in the number and consequences caused by third-party excavators. As a baseline the City will track the number of reported incidences and consequences of third party excavators including;*

   - *reported near misses;*
   - *reported third party pipeline damage that did not result in a leak;*
   - *reported third party pipeline damage that resulted in pipeline failures.*

   As a supplemental measure the City may monitor and assess the public's perception of the safety of pipelines to determine effectiveness.

5. Remedial Action. Based upon information obtained from the program evaluation and make changes to the program accordingly. After the initial survey, improvements will be incorporated into the program and update every 4 years thereafter, unless major redesign of the program is implemented.

6. Summary Baseline Evaluation. A summary of the baseline evaluation program is as follows in Table E.1;

Table E.1: Evaluation Summary

Evaluation Approaches	Evaluation Techniques	Evaluation Frequency
Self Assessment of Implementation	Internal staff review and audit	Annually
	Regulatory inspection	Once every two years

Pre-Test of Evaluation Materials	*In –house Utilities Subcommittee Review*	*Upon design or major redesign of public awareness materials or messages*
Evaluation of effectiveness of program implementation: • *Outreach* • *Level of Knowledge* • *Changes in Behavior* • *Bottom-line results*	1. *Survey: to assess outreach efforts, audience knowledge and changes in behavior using operator design survey in Appendix III sent to targeted stakeholder sampling groups* 2. *Review notifications and incidents to determine anecdotal changes in behavior.* 3. *Documented records and industry comparisons of incidents to evaluate bottom-line results.*	*No more than 4 years apart.* *More frequently as a supplement or upon major redesign of the program.*
Implement changes to the Public Awareness Program as assessment methods suggest	*As designated by Program Administration*	*As required by evaluation findings.*

The City disagrees with the findings which stated that we were unable to demonstrate that we had evaluated the effectiveness of our PA Program. The City produced records verifying targeted surveys and mailing lists for local excavators. The City has a record of public awareness communications in Appendix X.4 of the O&M Manual. Based on survey responses the City has taken remedial actions "as outlined" in the program and made modifications to the message to include participating with Enumclaw in hosting contractors breakfasts. The City has altered the pamphlet, emergency response information and newsletter that goes out to 1,500 residents. In response to the lack of public interest the City had magnets created which are distributed that has one-call and emergency contact information on it. All of this information was communicated to the inspector. What the City did state was that we had not prepared a "written" study evaluating the overall effectiveness of the PA Program, but pursuant to Section E above we were not aware that this was a requirement. The City is requesting clarification of the finding to ensure compliance. If this is indeed a requirement then the City is willing to perform a "written" study documenting the effectiveness of the program.

5. **WAC 480-93-185 - Gas leak investigation.**

Foreign leaks:

1st item: On 3/3/10 Heath and City operators were conducting a leak survey of the gas pipeline on Ryan Rd in the vicinity of 1707 Ryan Rd. The operators detected gas with a reading of 6% (sewer). The reading was detected approximately 10' from a known service line, so the operators bar holed the service line in 7 location and detected 0% gas. The sewer gas reading was traced to a septic tank with plywood covering.

The operators took no further action and failed to contact the property owner pursuant to WAC 480-93-185(3)(b).

2nd item: On 3/8/11 at 7:05 a.m. the Utilities Clerk received an odor complaint from 28280 - SR410 (Arrow Lumber). The PW Department was dispatched to the address at 7:05 a.m. At 7:12 a.m. two gas operators investigated the odor and determined that the leak was coming from a propane tank on a forklift utilized at the lumber yard. The operators closed the valve on the propane tank and completed a thorough investigation of the businesses service meter and service line. No gas was detected.

The operator of the forklift was present during this investigation and was informed about the source and status of the odor. WAC 480-93-185(3)(b) provides;

Report the leak promptly to the source facility owner or operator and, where appropriate, to the police department, fire department, or other appropriate governmental agency.

Therefore the City disagrees with the findings for the 2nd item and believes that the operator acted appropriately and in compliance with adopted gas safety regulations.

6. **WAC 480-93-187 - Gas leak records.**

Leak survey information:

a. 1554 Collins (2/24/10) - Leak survey at 1554 Collins was conducted by Heath on 2/24/10 at 3:15 p.m. Heath completed a leak survey form identifying 80% gas and graded it a Class II leak pursuant to Table XI.C "Grade 2 Leak Criteria". A City operator was present at the time of detection and the leak was repaired the following morning on 2/25/10 by tightening a bottom out cap. In filling out the City's leak investigation form the operator failed to record the % of gas on the City form.

b. 126 Naches Street (2/25/10) - - Leak survey at 126 Naches Street was conducted by Heath on 2/25/10 at 10:05 a.m.. Heath completed a leak survey form identifying 65% gas and graded it a Class II leak pursuant to Table XI.C "Grade 2 Leak Criteria". A City operator was present at the time of detection and the leak was repaired within 40 minutes. In filling out the City's leak investigation form the operator checked the wrong grade box and failed to record the % of gas on the City form.

c. 151 B Street (3/11/09) - Leak survey at 151 B Street was conducted by Heath on 3/11/09. Heath completed a leak survey form identifying 25% gas. The leak was appropriately graded as a Class III leak pursuant to Table XI. D "Grade 3 Leak Criteria", which states "*A leak that is non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous.*" Remarks on the survey form indicate that the leak was isolated under a wood pole with no migration. This form was turned over to City staff at 16:25 p.m. on 3/11/09. City staff responded to the leak the following morning on 3/12/09 at 09:00 a.m. and with repair bands was able to slow the leak to a reading of 4% gas. This leak was re-evaluated on 4/09/09 and on 9/23/09 was repaired by insertion of a new P.E. service.

d. 1408 Main Street (3/10/09) - Leak survey by 1408 Main Street was conducted by Heath on 3/10/09 at 13:30 p.m.. Heath identified a leak near the street curb face

within the public right-of-way in front of 1408 Main Street. Heath completed a leak survey form identifying 10% natural gas and graded it as a Class III leak pursuant to Table XI.D "Grade 3 Leak Criteria". A City operator was present at the time of detection. At 13:45 p.m. the City's Lead Operator arrived on scene, evaluated the leak and concurred that it was a Grade III leak pursuant to Table XI.D "Grade 3 Leak Criteria". Based on judgment and hazard assessment the Lead Operator deferred the leak for further evaluation. Pursuant to Table XI.D "Grade 3 Leak Criteria" and WAC 480-93-18601(3)(a) the leak was re-evaluated in 10 months and 17 days. At that time the operator conducting the re-evaluation detected a natural gas reading of 5%. On 4/7/10 the leak was repaired within 13 months of the reporting date.

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Leak grades
Based on an evaluation of the location and/or magnitude of a leak, one of the following leak grades shall be assigned, thereby establishing the leak repair priority.

Leakage classification and control requirements are provided in the following tables. The examples of leakage provided in Tables XI.B, XI.C and XI.D listed below are guidelines and are not exclusive. The judgment of the gas personnel at the scene is of primary importance in determining the grade assigned to a leak.

Table XI.D – Grade 3 Leak Criteria

GRADE 3 A leak that is non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous.	
PRIORITY OF LEAK REPAIRS	EXAMPLES
Grade 3 leaks should be re-evaluated during the next scheduled survey, or within 15 months of the reporting date, whichever occurs first, until the leak is re-graded or no longer results in a reading.	Leaks requiring reevaluation at periodic intervals: 1. Any reading of less than 80% LEL in small gas associated substructures such as small meter boxes or gas valve boxes. 2. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building. 3. Any reading of less than 20% LEL in a confined space. *Note: LEL for the system is 5% gas in air

7. WAC 480-93-188 - Gas leak surveys. As previously discussed in response #5 above, the City recently became aware through the diligence of our new Lead Operator that there were inconsistencies between the City's Master System map and the individual map cards kept on file. Upon discovery the Gas Lead began a systematic process of physically relocating mains and services to reconcile the maps and cards. He kept

handwritten records of these inconsistencies that were to be used later for an update the overall system map. None of the pipe lines and/or services marked and noted on the Gas Leads map were transferred to the system map or leak surveyed prior to the safety inspection.

Each of the identified areas were leak surveyed prior to the exit interview, but were not transferred to the City's Master System map. We are now in the process of doing so and many of these areas have been re-evaluated and turned over to the City engineer for mapping.

However, due to the number of errors discovered the City believes that it will be necessary to expend the time and effort to relocate "all" mains and services in the City to verify locations. Our goal is to have this accomplished in the next six months starting with the highest class areas first and working down from there.

As a result of this discovery it is obvious that those lines and/or services that have "historically" not been located appropriately have not been properly leak detected unless the location is fairly close to where they were mapped. As stated above the City is currently re-evaluating the location of all lines and services in the City and once it has been determined that the location and mapping of a line or service is inaccurate it is leak surveyed and maps updated. Our goal is to accomplish this concurrently with the mapping schedule above.

8. **WAC 480-93-180 - Plans and Procedures.**

Item #1 - U.T. gauge: The City utilized the ultrasonic thickness gauge to verify wall thickness on pipe. Since this is not required the City is deleting this measure from the O&M Manual and practice until formal procedures can be developed. Correction will appear in the O&M Manual as follows;

G. Hot Tapping
Each tap made on a pipeline under pressure must be performed by an individual qualified to make hot taps. Scott Nickels and Brian Burbank are qualified to make hot taps by experience and training.

~~*NDT and/or UT testing is suggested prior to tapping the pipe.*~~

Item #2 - Cathodic protection survey. Due to the Lead Operators illness, the responsibility for completing the cathodic protection survey in both 2009 and 2010 was assigned to one of the new operators who certified under this covered task on 3/31/2009. The operator failed to record the "off" reading from the test.

Item #3 - Atmospheric corrosion survey. The City failed to take action to remediate eleven (11) grade "4" services operating under distribution pressures that were identified in 2007 within the required timeframe outlined within the City's O&M Manual.

Item #4 - Foreign leaks. As stated in the response to #5 above;

1st item: On 3/3/10 Heath and City operators were conducting a leak survey of the gas pipeline on Ryan Rd in the vicinity of 1707 Ryan Rd. The operators detected gas with a reading of 6% (sewer). The reading was detected approximately 10' from a known service line, so the operators bar holed the service line in 7 location and detected 0% gas. The sewer gas reading was traced to an septic tank with plywood covering.

The operators took no further action and failed to contact the property owner pursuant to WAC 480-93-185(3)(b).

2nd item: On 3/8/11 at 7:05 a.m. the Utilities Clerk received an odor complaint from 28280 - SR410 (Arrow Lumber). The PW Department was dispatched to the address at 7:05 a.m. At 7:12 a.m. two gas operators investigated the odor and determined that the leak was coming from a propane tank on a forklift utilized at the lumber yard. The operators closed the valve on the propane tank and completed a thorough investigation of the businesses service meter and service line. No gas was detected.

The operator of the forklift was present during this investigation and was informed about the source and status of the odor. WAC 480-93-185(3)(b) provides;

Report the leak promptly to the source facility owner or operator and, where appropriate, to the police department, fire department, or other appropriate governmental agency.

Therefore the City disagrees with the findings for the 2nd item and believes that the operator acted appropriately and in compliance with adopted gas safety regulations.

9. **49 CFR § 192.614 – Damage prevention program.** Due to the fact that the list of excavators in the service area is continually changing the City utilizes its business license and small works roaster for identification and notification of excavators. A printed roster listing excavators that had been notified of both damage prevention and public awareness information was obtained from City records and provided to the safety inspector. This method is the one the City uses to be able to identify the most current list of excavators in the area. The City is in agreement that the list of excavators in the O&M Manual may be outdated and we have made the following revision in the O&M Manual to reflect the most effective method for identifying an up to date list.

Excavators
The City maintains a current list of ~~Table X.B below lists~~ excavators who normally engage in work in the City of Buckley's service area through its small works and business license roster, which is continually updated. Once each calendar year the companies on this list that are identified as excavators will be mailed a copy of the City's damage prevention program and other information relating to safety excavation around the natural gas system.

The City appreciates the knowledge, expertise, cooperation and assistance of the safety inspector(s) during the latest inspection. Our goal is to "provide natural gas and operate the system in a manner that maximizes safety and service to its customers. If I

can provide further information or clarify this response in any way, please feel free to contact me at Buckley City Hall (360) 829-1921 ext 200. Thank you.

Sincerely,

Dave Schmidt
City Administrator

Cc: Mayor Pat Johnson
City Council
City Engineer, Dominic Miller
City Attorney, Phil Olbrechts