

Docket Nos.: PG-030438 Bellingham/Mt Vernon  
PG-030435 Wenatchee/Moses Lake

**VIA CERTIFIED MAIL**

May 21, 2004

Will O'Dell  
Vice President Operations  
Cascade Natural Gas Corporation  
222 Fairview Ave North  
PO Box 24464  
Seattle, Washington 98124

Dear Mr. O'Dell:

**Subject: 2003 Natural Gas Standard Inspection for Bellingham/Mount Vernon and  
Wenatchee/Moses Lake Districts**

Commission Pipeline Safety staff (Staff) conducted a pipeline safety inspection from December 2003, through March 2004, of Cascade Natural Gas' (CNG) facilities located in the Bellingham/Mount Vernon and Wenatchee/Moses Lake districts. Enclosed is Staff's report showing the results of the inspection including seven violations with state and federal pipeline safety codes. Staff also noted nine areas of concern which, unless corrected, could potentially lead to violations with pipeline safety codes.

It is not to be assumed that this inspection detected all apparent code violations at this time. It is incumbent upon CNG to review all of its facilities and operations to determine whether there are other areas of violations with state and federal pipeline safety codes.

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Please review the attached report and respond in writing by June 21, 2004. The response should include a letter of intent and the date you plan to address the areas of violations noted.

If you have any questions or if Staff may be of any assistance, please contact Scott Rukke at (360) 664-1241.

Please refer to docket numbers PG-030438 for Bellingham/ Mount. Vernon and PG-030435 for the Wenatchee/Moses Lake district in any future correspondence regarding this report.

Thank you for your cooperation and interest in pipeline safety.

Sincerely,

Alan E. Rathbun  
Pipeline Safety Director

Enclosures

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

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION  
2003 Natural Gas Pipeline Standard Inspection Report  
Cascade Natural Gas Corporation  
Bellingham/Mount Vernon Districts, Docket PG-030438  
Wenatchee/Moses Lake Districts, Docket PG-030435

VIOLATIONS

1. 49 CFR 192.285, Plastic Pipe: Qualifying Persons to Make Joints

- (a) *No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:*
- (1) *Appropriate training or experience in the use of the procedure; and*
  - (2) *Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.*
- (b) *The specimen joint must be:*
- (1) *Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and*
  - (2) *In the case of a heat fusion, solvent cement, or adhesive joint;*
    - (i) *Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;*
    - (ii) *Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or*
    - (iii) *Cut into at least three longitudinal straps, each of which is:*
      - (A) *Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and*
      - (B) *Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.*

Finding:

Cascade Natural Gas (CNG) is testing, qualifying and using plastic pipe joiners to make heat fusion butt joints without conducting either the ultrasonic inspection detailed in Part 192.285(b)(2)(ii) or by the bending, torque, or impact test in 192.285(b)(2)(iii)(B).

2. **49 CFR 192.13, General**

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

**Finding:**

Parts 192.285(b)(2)(ii) and 192.285(b)(2)(iii)(B) require that when qualifying persons to make plastic pipe joints that the joints be examined by either an ultrasonic inspection or that they be subjected to a bending, torque or impact test. CNG procedure CP 607.215 does not require that the specimen joints be tested by either method.

3. **49 CFR 192.721, Distribution systems: Patrolling**

- (a) *The frequency of patrolling mains must be determined by the severity of the conditions which could cause failure or leakage, and the consequent hazards to public safety.*
- (b) *Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled -*
- (1) *In business districts, at intervals not exceeding 4 1/2 months, but at least four times each calendar year; and*
  - (2) *Outside business districts, at intervals not exceeding 7 1/2 months, but at least twice each calendar year.*

**Finding:**

The Mount Vernon quarterly patrols were conducted on April 25, 2002, and again on September 19, 2002. This exceeds the maximum quarterly patrol timeframe of 4 ½ months by approximately 10 days.

4. **49 CFR 192.739, Pressure Limiting and Regulating Stations: Inspection and Testing**

*Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is-*

- (a) *In good mechanical condition;*
- (b) *Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;*
- (c) *Set to function at the correct pressure; and*
- (d) *Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.*

**Findings:**

(a) **Mount Vernon District, City of Burlington, Regulator Station R-28.**

Maintenance was not performed on regulator station R-28 during the calendar year 2003. Documentation indicates that on June 6, 2003, personnel attempted to perform annual maintenance but couldn't due to an inoperable valve. CNG was unable to provide any further documentation indicating that maintenance was performed on this regulator station after December 9, 2002.

(b) **Bellingham District, City of Ferndale, Regulator Station R-137.**

Maintenance was performed on June 15, 2002 and then again on September 20, 2003. This exceeded the maximum 15-month timeframe by approximately 5 days.

5. **49 CFR 192.741, Pressure Limiting and Regulating Stations: Telemetering or Recording Gauges**

- (c) *If there are indications of abnormally high- or low-pressure, the regulator and the auxiliary equipment must be inspected and the necessary measures employed to correct any unsatisfactory operating conditions.*

**Findings:**

Documentation indicated that the following regulator stations exceeded their established Maximum Allowable Operating Pressure (MAOP):

- (a) **Arlington R-86.** The MAOP of this system is 249 psig. Records indicate that from March 2002 until October 2003, the pressure exceeded 249 psig approximately 70 times. (Pressure charts checked and changed once each week).

- (b) **Anacortes – Commercial (no regulator # on documentation).** The MAOP is of this system is 10 psig. Records indicate that from June 2002 through January 2003, the pressure exceeded 10 psig approximately 6 times. (Pressure charts checked and changed once each week).
- (c) **Burlington 1955 S. Burlington Blvd. (no regulator # on documentation).** The MAOP of this system is 42 psig. Records indicate that from March 2003 until May 2003, the pressure exceeded 42 psig 7 times. (Pressure charts checked and changed once each week).
- (d) **Burlington R-19.** The MAOP of this system is 42 psig. Records indicate that from December 2002 until March 2003, the pressure exceeded 42 psig 17 times. (Pressure charts checked and changed once each week).

In the majority of these indications of abnormally high pressures, CNG failed to conduct the necessary inspections of the regulator and or auxiliary equipment such as the pressure recording charts. Due to records indicating 2 different pressures on 1 system fed by multiple regulators Staff requested that CNG conduct an inspection of the pressure-recording chart at R-86. This recording chart was found it to be reading approximately 20 psig above the actual operating pressure. CNG does not conduct scheduled calibration of recording charts and according to records, many of the devices in the Mt. Vernon district are undependable and frequently inoperable.

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

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

**Findings:**

The following valves exceeded the maximum 15-month timeframe for maintenance:

- (a) **Bellingham District, City of Ferndale, valve V-123.** Maintenance was performed on May 21, 2002, and then again on September 2, 2003. This exceeded the maximum 15-month timeframe by approximately 12 days.

- (b) **Bellingham District, City of Bellingham, valve V-168.** Maintenance was performed on March 28, 2002, and then again on September 2, 2003. This exceeded the maximum 15-month timeframe by approximately two months and 4 days.
- (c) **Bellingham District, City of Sumas, valve V-82.** Maintenance was performed on May 17, 2002, and then again on September 2, 2003. This exceeded the maximum 15-month timeframe by approximately 16 days.

7. **WAC 480-93-188 (2), Gas Leak Surveys (Maintenance and Calibration of Instruments)**  
**Repeat violation**

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

**Findings:**

CNG requires calibration of combustible gas indicators (CGI's) semi-annually and flame ionization (FI's) units prior to each use. This frequency is based on the manufacturer's recommended calibration frequency. Staff reviewed calibration records indicating that CNG has not met the required frequencies. Records indicate that calibration frequencies for the following instruments did not meet the minimum requirements:

**Note:** Staff is only listing instruments from the second half of 2001 to the present. Missed calibration dates prior to this date were previously addressed.

- a. **Det Pk III, serial #9040.** (FI) According to system surveillance records, this instrument was used to conduct leak surveys on 10/10/2003, 10/3/2003, 9/30/2003, 12/10/2002, 7/9/2002, 6/28/2002, 6/21/2002, 4/25/2002, 4/23/2002, and 4/2/2002. CNG was unable to provide calibration records for these dates.
- b. **Det Pk III, serial #9308.** (FI) According to system surveillance records, this instrument was used to conduct leak surveys on 10/10/2003, 10/3/2003,

9/30/2003, 6/21/2002, 4/25/2002, 4/23/2002 and 4/2/2002. CNG was unable to provide calibration records for these dates.

- c. **Det Pk II, serial #3397.** (FI) According to system surveillance records, this instrument was used to conduct leak surveys on 7/9/2002 and 6/28/2002. CNG was unable to provide calibration records for these dates.
- d. **Gascope 53, serial #7078.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2001.
- e. **Gastrac II, serial #7078.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2001.
- f. **Gastrac II, serial #17521.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- g. **Gastrac II, serial #17570.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- h. **Gastrac II, serial #18762.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- i. **Gastrac II, serial #18763.** (CGI) According to calibration records this instrument was not calibrated semi-annually in 2003.
- j. **Gastrac II, serial #28392.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- k. **Gastrac II, serial #E31047.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- l. **Gastrac II, serial #M12286.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- m. **Gascope 60, serial #4531.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- n. **Gascope 60, serial #4555.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002



- o. **Gascope 60, serial #6003.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- p. **Gascope 60, serial #4531.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- q. **Gascope 53, serial #11043.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- r. **Gastrac II, serial #16523.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- s. **Gastrac II, serial #17564.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- t. **Gastrac II, serial #19926.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- u. **Gastrac II, serial #19927.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2003.
- v. **Gastrac II, serial #M7065.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.
- w. **Gascope 60, serial #5498.** (CGI) According to calibration records, this instrument was not calibrated semi-annually in 2002.

### **AREAS OF CONCERN**

1. Staff reviewed leak records which indicated that CNG personnel were using a Hydrogen Flame Ionization (HFI) unit to grade leaks found during leak surveys in the Bellingham area. WAC 480-93-187(2)(s) requires that the magnitude of CGI reads be recorded at appropriate locations which are part of the classification procedure contained in Table 1 of WAC 480-93-186 (codified as WAC 480-93-18601). CNG cannot comply with this requirement using only an HFI unit.

2. Records indicate that Bellingham district pressure recorders, which are used to comply with the CFR Part 192.741 pressure monitoring requirements, are excessively non-functional. The condition and non-functionality of the recorders could potentially lead to non-compliance with the pressure monitoring requirements of CFR Part 192.741.
3. Staff reviewed leak records that were missing information such as pressure test records, leak grade and locations of CGI reads. This information is required to be documented by WAC 480-93-187 and WAC 480-93-188 (pressure tests).
4. CNG does not have a calibration schedule for pyrometers. Pyrometers are used to verify fusion iron temperatures. Fusion irons that are out of the specified temperature ranges could affect the integrity of the pipeline joints that are produced.
5. CNG does not have a calibration or accuracy check schedule for pressure recording devices or gauges. Pressure recording devices and gauges are an integral part of monitoring pipeline systems.
6. CNG does not maintain the required atmospheric corrosion survey records. CNG records atmospheric corrosion surveys by exception, which only indicates areas requiring remedial action. Staff was not able to determine whether CNG is in compliance with the requirements of CFR Part 192.481.
7. Staff reviewed records such as pressure logs that did not adequately identify the MAOP's of various systems. An example is CNG's Arlington system fed by regulator R-86. Staff reviewed the pressure logs for this system which had the MAOP of 250 psig crossed out and an MAOP of 400 psig written above it. Neither number is correct, as the MAOP of this system is 249 psig. CNG should clearly identify each system MAOP and document it on the appropriate paperwork or record. In the example cited above, the pressure logs are used to monitor system pressures and to indicate when Commission notification is required.
8. CNG does not have an atmospheric corrosion survey program in place for the inspection of pipelines under supports, straps or other places where moisture accumulation is possible and could cause corrosion. Staff inspected Wenatchee station O-06 and observed the pipeline coating flaking off under the support straps. The support straps were in direct contact with the pipeline and it

appeared that moisture frequently accumulated under the straps. At Staff's request, CNG personnel removed the support straps and inspected, cleaned, and re-coated the pipeline.

9. Staff reviewed casing survey records for the Bellingham district which indicated that at least one casing was not surveyed for electrical isolation on an annual basis as required by WAC 480-93-115. The survey documentation indicated that CNG personnel could not find the casing vents to conduct the survey. Staff, along with CNG personnel visited the casing site and the vents were clearly visible. CNG should implement a program to verify survey results in areas where it is indicated that a certain function or compliance requirement can't be performed.