



February 20, 2008

Mr. David Lykken  
Acting Pipeline Safety Director  
Washington Utilities and Transportation Commission  
1300 South Evergreen Park Drive SW  
P. O. Box 47250  
Olympia, Washington 98504-7250

RECEIVED  
MANAGEMENT  
2008 FEB 27 AM 8:07  
STATE OF WASH.  
UTIL. AND TRANSP.  
COMMISSION

Re: Waiver Request-Operation and Maintenance of 4"-12" PBV Valves

Dear Mr. Lykken:

By way of this letter, NW Natural is requesting a waiver of relevant state and federal pipeline safety regulations and company operation and maintenance (O & M) manual requirements relative to the partial operation of known and suspected 4"-12" PBV valves during regularly scheduled valve maintenance activities. The company is requesting the waiver for a period of time extending from February 1, 2008 through July 1, 2010.

As you are aware, NW Natural recently experienced a serious failure on a buried 12" steel valve manufactured by PBV shortly after operation of the valve. The valve is a Class 300 (MAOP 720 PSI), trunnion supported, full port, ball valve with gear operator. Company personnel excavated the valve to investigate the cause of the failure and found that all six of the cap screws that hold the trunnion in the valve body had fractured near the cap screw head allowing the trunnion to separate from the valve body. The bolt failure resulted in a significant release of natural gas.

On January 8, 2008 NW Natural requested that the Oregon Public Utility Commission (OPUC) waive O & M requirements relative to the partial operation of known and suspected 10" and 12" PBV steel valves during normal maintenance until such time as the company has determined a root cause of the trunnion bolt failures and completed appropriate remedial action. OPUC Staff approved the company's waiver request on January 22, 2008.

Subsequent to the company's January 8, 2008 waiver request to the OPUC, there has been significant additional information and findings related to the root cause of the original 12" PBV valve failure. The preliminary findings suggest that the bolts failed due to a time-dependant manufacturing defect. Based on these preliminary findings, NW Natural believes it is prudent to expand the scope of the investigation, and limitations on operation, to include other sizes of PBV valves with a similar design. Therefore, on February 18, 2008 NW Natural filed a second waiver request to the OPUC relative to the partial operation of known or suspected 4", 6", 8", 16" and 24" PBV valves during annual valve maintenance activities. OPUC Staff has indicated that they will approve the second waiver request as well.

Since NW Natural believes that there are PBV valves installed in the company's Washington pipeline infrastructure, NW Natural is requesting that the UTC approve a waiver of any relevant state or federal pipeline safety regulations and company O & M manual provisions relative to the partial operation of known or suspected 4"- 12" PBV valves during regularly scheduled valve maintenance inspections.

NW Natural proposes that during routine valve inspections field personnel would locate the valve, ensure that it is available (e.g. not paved over) and perform and document an instrumented leakage survey. However, until this issue is resolved appropriately, field personnel would not operate known or suspected PBV valves during normal maintenance. The valves would be operated if necessary, using a valve operation procedure developed specifically for PBV valves. These special procedures have been prepared and distributed to appropriate field personnel. NW Natural believes that the specialized valve maintenance procedures provide an improved level of safety for our employees, our customers and the general public.

NW Natural proposes the following conditions associated with the waiver request:

- 1) NW Natural will provide Staff with a copy of the revised inspection procedure for annual maintenance of known or suspected PBV valves (see enclosure).
- 2) NW Natural will provide Staff with a copy of the special procedure for operation (if necessary) of known or suspected PBV valves (see enclosure).
- 3) On or before March 13, 2008 NW Natural will provide Staff with a list of known and suspected PBV valves in Washington.
- 4) On or before July 15, 2008 NW Natural will provide Staff with findings on the root cause investigation and a remediation plan and schedule for addressing the subject valves.
- 5) NW Natural will provide Staff with periodic updates on the status of the project at mutually agreeable frequencies.

The company is strongly committed to the reliable delivery of natural gas to our customers, and to the safety of our customers, our employees and the general public. We intend to proceed rapidly with the failure investigation in order to identify and implement an appropriate remediation for this issue in a timely manner.

NW Natural wishes to thank Staff for your support relative to this issue.

Please contact me if you have questions.

Sincerely,



Bruce L. Paskett, P.E.  
Manager Code Compliance

Enclosures

# BULLETIN



# Construction TRAINING

<b>Bulletin #01-08</b>	<b>Subject:</b> Valve Maintenance Inspection Variance
	<b>Date:</b> 2-5-08

This bulletin is being distributed to communicate a change in procedure for some valve maintenance inspections being conducted by NWN personnel. This information should be shared with all field personnel but must be shared with crews performing valve maintenance across all departments. The procedure is to be used for annual maintenance inspection of known or suspected 4" through 12" PBV full port valves installed between 1994 and 2005. All crews shall perform the modified procedure for maintaining these valves. All other valves are to be fully maintained during the annual inspections.

In addition, the following procedures shall be implemented to assist in identifying these valves and distinguish between transmission line valves, gas supply valves, and distribution valves.

**Transmission line valves:**

- Paint valve frames red
- Paint valve covers yellow

**Gas Supply valves:**

- Paint valve frames blue
- Paint valve covers yellow

**Distribution Valves:**

- Paint valve frames and covers yellow

Include a red slash through the center of the cover of identified or suspected PBV 4" through 12" valves installed between 1994 and 2005. Aervoe Survey Marker Paint (red locate paint) is available to purchase through American Barricade or United Rentals.

1-16-08 Original bulletin 10" and 12" valves only.

2-5-08 Amended to include 4" through 8" valves.

MEMORANDUM



**Date:** February 5, 2008

**To:** Construction Field Personnel, Gas Supply Personnel, Field Supervisors

**From:** Construction Training

**Subject:** Valve maintenance and emergency operating procedures for suspected or known 4" through 12" PBV valves

This memo is being distributed to clarify procedures for the maintenance and emergency operation of PBV 4" through 12" full port ball valves identified in revised bulletin #01-08 issued 2-4-08.

### Maintenance Procedure

This procedure is to be used for annual maintenance inspection of all known or suspected 4" through 12" PBV full port ball valves installed between 1994 and 2005. All other valves are to be fully maintained during annual inspections.

- DO NOT OPERATE THE VALVE
- Inspect the valve box for accessibility.
- Clean the valve box as required
- Conduct a leakage survey using a leakage instrument
- If leakage is detected classify as hazardous or non-hazardous
- If leak cannot be repaired by greasing, create an Advantica alert on the inspection screen indicating the presence of a leak and notify Ross Lisle on extension 4424.
- If leak is hazardous, contact Cliff Coulter 503-781-7243 or Brian Konrad 503-819-1796 prior to excavating.

- Paint valve frame and lid appropriate color for type of valve (transmission, gas supply, distribution see bulletin #01-08) and include a red slash across the lid to indicate a PBV valve.
- Complete Advantica inspection indicating “no” in the valve operated section.
- In comment section of Advantica inspection indicate “did not operate, suspected PBV valve. Leakage survey complete” as indicated below.

Compliance ID: 501647 (AR\_ASSET\_DATA\_7)  
 Line Valve ID: 1-031-031-L-07-V-A  
 Address: N17 STARK ST & SE EPL SE 14 AV  
 Valve Size (in): 4  
 Valve Type: Plug Valve  
 Line MAOP Inlet: 0

**Date**

Date Added: Monday, February 04, 2008  
 Date Start: Monday, February 04, 2008  
 Date End: Monday, February 04, 2008

**General**

Work Order ID:   
 Regulatory: DOT  
 Comments: Did not operate suspected PBV valve. Leakage survey complete.

**Alert**

Post an alert  
 Alert Comment:

Incomplete Event To set a blank Value, select a Variable in the left-hand column of the list, and press Ctrl+0.

Inspection | Maintenance

Variable	Value
● Locked	No
● Lubed	Yes
● Operated	No
● Cleaned Box	Yes
● Operational Condition	N/A
● Flagger Required	
● Atmospheric Corrosion	N/A
● Maintenance Required	
● Maintenance Performed	

OK Cancel Help

## Emergency Operation Procedure

If a suspected 4" through 12" PBV ball valve needs to be operated in an emergency situation the following procedure shall be performed.

- Identify and make available the nearest valves upstream and downstream of the suspected PBV valve.
- Immediately follow up operation of the valve with a leakage survey.
- Record the reason for valve operation and survey results and call information to Mickey Martin on extension 4390 or Sherry Tubbs on extension 4336.
- Conduct or schedule a follow up leakage survey the next day.

February 4, 2008