



8113 W. GRANDRIDGE BLVD., KENNEWICK, WASHINGTON 99336-7166
TELEPHONE 509-734-4500 FACSIMILE 509-737-7166
www.cngc.com

In the Community to Serve®

September 27, 2013

David D. Lykken
Pipeline Safety Director
Washington Utilities and Transportation Commission
1300 S. Evergreen Park Drive S.W.
P.O. Box 47250
Olympia, WA 98504-7250

RECEIVED
SEP 27 2013
State of Washington
UTC
Pipeline Safety Program

Subject: Cascade Natural Gas – Maximum Allowable Operating Pressure (MAOP)

David:

In response to a 2013 inspection performed by WUTC staff in the Bellingham District, Cascade Natural Gas (Cascade) has recently completed a review of the documentation on its high pressure (HP) pipelines which are operating in the state of Washington. The purpose of this review is to validate the Maximum Allowable Operating Pressure (MAOP) for each pipeline. This review included records located in Cascade's General Office, district offices, off-site storage facilities, and electronically stored files. As a result of this review Cascade discovered 28 pipeline sections with missing or insufficient documentation to validate the current MAOP. Cascade has prepared a plan of action for these pipelines and TABLE 1 – PLAN OF ACTION following this letter summarizes this plan.

Cascade has prepared a schedule to gather missing or insufficient information, or to replace the affected pipeline section. This schedule will cover 13 years and will address all 28 pipeline sections from most critical to least critical, with only two exceptions. These exceptions are pipeline sections that are already planned for replacement. This schedule can be seen in TABLE 2 – SCHEDULE TO GATHER INFORMATION.

In addition, as a result of the review described above, some of Cascade's pipelines will be operating with an MAOP based on an assumed yield strength of 24,000 psi, as prescribed in §192.107. TABLE 3 – PIPELINES ASSUMING YIELD STRENGTH OF 24,000 PSI following this letter summarizes this information. Please note that the MAOP for these pipelines did not change, only the hoop stress and subsequent %SMYS calculations. Additionally, none of the changes resulted in a pipeline being stressed to greater than 20% SMYS. Because these pipeline sections are operating safely, no other action is planned.

Cascade appreciates the working relationship that we have with the WUTC. We feel that our efforts to date, coupled with the plan presented in this correspondence, will enhance the safety and reliability of our system. We look forward to working with you and your staff as we further



8113 W. GRANDRIDGE BLVD., KENNEWICK, WASHINGTON 99336-7166
TELEPHONE 509-734-4500 FACSIMILE 509-737-7166
www.cngc.com

In the Community to Serve®

refine the details of this plan. If you have any questions or would like to discuss anything further, please feel free to contact me to discuss.

Sincerely,

Jeremy Ogden, P.E.
Director, Engineering Services
Cascade Natural Gas Corporation
jeremy.ogden@cngc.com
509-734-4509

enclosures

TABLE 1 - PLAN OF ACTION

Aberdeen District				
Line #	Description	Year Installed	Critical Information	Plan of Action
12	2" Elma HP Line	1978	Pressure test documentation	Validate operating pressure.
Bellingham District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	8" HP Line	1956	Pipe grade and wall thickness	Remove sections of retired in place pipe and test for pipe grade and wall thickness. Prepare sampling plan for further testing if necessary.
2	2" Bellingham HP Distribution System	1967	Pressure test documentation	Pipeline will be removed/downrated as part of future project to remove pipelines from aging bridges.
3	8" Central Whatcom HP Line	1957	Pipe grade and wall thickness	Test samples from James Street and Lampman Road, and any other points that are available, for pipe grade and wall thickness. Prepare sampling plan for further testing if necessary.
21	16" Squalicum HP Line	1993	Pipe grade	Prepare sampling plan to verify pipe grade of 2,600 ft of pipeline.
Bremerton District				
Line #	Description	Year Installed	Critical Information	Plan of Action
2	8" Bremerton Line	1963	Pipe grade	Test abandoned sections to verify pipe grade.
11	8" Bremerton HP Line	1971	Pressure test documentation	Validate operating pressure.
Kennewick District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	8" Attalia HP Line	1958	Pipe grade	Test previously removed sections for pipe grade.
1	12" Attalia HP Line	1968	Pipe grade and wall thickness	Test and/or remove 183 ft section.
4	Pasco HP Distribution System	1995	Pipe material	Work Order states Iron pipe in one section. Test pipe to verify material, grade, and thickness. Alternative is to replace 187 ft section of pipeline.
16	4" North Pasco HP Line	Various	Pressure test documentation	Validate operating pressure test or replace 531 ft section of pipeline.
18	6" West Richland HP Line	2010	Pressure test documentation	Validate operating pressure.
Longview District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	12" Longview-Kelso HP Distribution Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness. Test retired in place sections and sections which have previously been removed.
1	8" Longview-Kelso HP Distribution Line	1957	Pipe grade and wall thickness	In process of being replaced.
2	4" Kalama HP Line	1976	Pressure test documentation	Validate operating pressure.
8	8" Kalama HP Line	1996-1997	Pipe grade, wall thickness, and pressure test documentation	Test retired in place pipe and samples removed during replacements. Validate operating pressure on applicable sections.
Mt. Vernon District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	8" Anacortes HP Line	1972	Pipe grade	As-builts show X-42 pipe, MTR shows Grade B. In-situ testing and/or replacement of 80 ft of pipeline will be required.
1	8" Anacortes HP Line	1957	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
2	8" March Point HP Line	1957	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
15	6" Mt. Vernon HP Line	2009	Pressure test documentation	Validate operating pressure.
Walla Walla District - None				
Wenatchee District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	6" & 8" Moses Lake HP Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
2	2" Wheeler HP Line	1962	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
3	4" Othello Line	1971	Wall thickness	Validate operating pressure or replace 191 ft section of pipeline.
Sunnyside District (Merged with Yakima District)				
Line #	Description	Year Installed	Critical Information	Plan of Action
5	6" Toppenish-Zillah HP Line	1956	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
5	6" Toppenish-Zillah HP Line	1993	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
6	3" Zillah HP Line	1956	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
8	3" South Toppenish HP Line	1956	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
Yakima District				
Line #	Description	Year Installed	Critical Information	Plan of Action
1	8" Yakima HP Line	1978	Pressure test documentation	Validate operating pressure.

TABLE 2 - SCHEDULE TO GATHER INFORMATION

2014					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Bellingham	1	8" HP Line	1956	Pipe grade and wall thickness	Remove sections of retired in place pipe and test for pipe grade and wall thickness. Prepare sampling plan for further testing if necessary.
Bellingham	3	8" Central Whatcom HP Line	1957	Pipe grade and wall thickness	Test samples from James Street and Lampman Road, and any other points that are available, for pipe grade and wall thickness. Prepare sampling plan for further testing if necessary.
Mt. Vernon	1	8" Anacortes HP Line	1957	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
2015					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Mt. Vernon	1	8" Anacortes HP Line	1972	Pipe grade	As-builts show X-42 pipe, MTR shows Grade B. In-situ testing and/or replacement of 80 ft of pipeline will be required.
Bremerton	2	8" Bremerton Line	1963	Pipe grade	Test abandoned sections to verify pipe grade.
2016					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Longview	2	4" Kalama HP Line	1976	Pressure test documentation	Validate operating pressure.
Sunnyside	5	6" Toppenish-Zillah HP Line	1956	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
Bellingham	21	16" Squalicum HP Line	1993	Pipe grade	Prepare sampling plan to verify pipe grade of 2,600 ft of pipeline.
Bellingham	2	2" Bellingham HP Distribution System	1967	Pressure test documentation	Pipeline will be removed/downrated as part of future project to remove pipelines from aging bridges.
2017					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Mt. Vernon	2	8" March Point HP Line	1957	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
Longview	8	8" Kalama HP Line	1996-1997	Pipe grade, wall thickness, and pressure test documentation	Test retired in place pipe and samples removed during replacements. Validate operating pressure on applicable sections.
2018					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Kennewick	1	8" Attalia HP Line	1958	Pipe grade	Test previously removed sections for pipe grade.
Longview	1	12" Longview-Kelso HP Distribution Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness. Test retired in place sections and sections which have previously been removed.
Wenatchee	1	6" & 8" Moses Lake HP Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
2019					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Longview	1	12" Longview-Kelso HP Distribution Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness. Test retired in place sections and sections which have previously been removed.
Kennewick	1	12" Attalia HP Line	1968	Pipe grade and wall thickness	Test and/or remove 183 ft section.
Sunnyside	5	6" Toppenish-Zillah HP Line	1993	Pipe grade and wall thickness	Test samples from abandoned sections and those removed during replacements. If needed, prepare sampling plan.
2020					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Longview	1	12" Longview-Kelso HP Distribution Line	1957	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness. Test retired in place sections and sections which have previously been removed.
Wenatchee	3	4" Othello Line	1971	Wall thickness	Validate operating pressure or replace 191 ft section of pipeline.
2021					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Bremerton	11	8" Bremerton HP Line	1971	Pressure test documentation	Validate operating pressure.
2022					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Kennewick	16	4" North Pasco HP Line	Various	Pressure test documentation	Validate operating pressure test or replace 531 ft section of pipeline.
Mt. Vernon	15	6" Mt. Vernon HP Line	2009	Pressure test documentation	Validate operating pressure.
2023					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Kennewick	18	6" West Richland HP Line	2010	Pressure test documentation	Validate operating pressure.
2024					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Aberdeen	12	2" Elma HP Line	1978	Pressure test documentation	Validate operating pressure.
Kennewick	4	Pasco HP Distribution System	1995	Pipe material	Work Order states Iron pipe in one section. Test pipe to verify material, grade, and thickness. Alternative is to replace 187 ft section of pipeline.
2025					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Yakima	1	8" Yakima HP Line	1978	Pressure test documentation	Validate operating pressure.
Wenatchee	2	2" Wheeler HP Line	1962	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
2026					
District	Line #	Description	Year Installed	Critical Information	Plan of Action
Sunnyside	8	3" South Toppenish HP Line	1956	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.
Sunnyside	6	3" Zillah HP Line	1956	Pipe grade and wall thickness	Prepare sampling plan to verify pipe grade and wall thickness.

TABLE 3 - PIPELINES ASSUMING YIELD STRENGTH OF 24,000 PSI

Aberdeen District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
4	4" Elma HP Line	R-6 to R-60	150	7.48%
8	4" montesano HP Distribution System	R-4 to R-5	135	6.73%
9	2" Elma Rendering Plant HP Line	Route 8 Crossing	150	7.48%
Bellingham District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
2	4" Bellingham HP Distribution System	High Street	155	9.31%
2	8" Bellingham HP Distribution System	Original line	155	14.81%
2	10" Bellingham HP Distribution System	Original line	155	15.85%
4	4" South Lynden HP Line	Original line	250	12.47%
8	2" Nooksach HP Distribution System	Tap line 4 south	250	8.03%
Bremerton District - None				
Kennewick District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
4	Pasco HP Distribution System	Original line and N. of 8th St.	300	14.96%
Longview District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
3	4" Dike Road HP Line	Original Line	80	4.81%
Mt. Vernon District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
3	6" Anacortes HP Distribution System	518 Hillcrest Drive to R-32	105	7.71%
3	8" Anacortes HP Distribution System	R-31 to 518 Hillcrest Drive	105	10.04%
4	4" Mt. Vernon HP Line	Original Line	250	12.47%
5	3" Burlington HP Line	R-18 to R-19	249	11.64%
7	4" North Texas Road HP Line	North Texas Road near R-85	250	8.03%
8	4" Arlington HP Line	Gate to R-86	249	12.42%
Walla Walla District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
1	8" Walla Walla HP Line	Original Line	150	14.34%
2	3" College Place HP Line	Original Line	150	7.01%
Wenatchee District				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
10	6" West Wheeler HP Line	205 ft segment installed in 1997	250	18.35%
12	6" Wenatchee HP Line	Original line	225	16.52%
Sunnyside District (Merged with Yakima District)				
Line #	Description	Segment Description	MAOP (psig)	Revised %SMYS
1	3" Sunnyside HP Line	Original line	200	9.35%
2	2" South Sunnyside HP Line	North section of line	200	6.43%
3	4" Grandview HP Line	Original line	250	12.47%
4	3" Prosser HP Line	O-01 to R-1	250	11.69%
7	4" Wapato HP Line	Original line	152	7.58%
9	3" Granger HP Line	Original line	175	8.18%
Yakima District - None				