CASCADE NATURAL GAS CORPORATION®
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State of Washington
UTC
Pipeline Safety Program

January 29, 2016

Alan Rathbun- Director of Pipeline Safety Program
State of Washington Utilities and Transportation Commission
1300 S. Evergreen Park Dr. SW
P.O. Box 47250
Olympia, WA 98504-7250

Re: MAOP Determination & Validation Plan
Docket PG-150120

Dear Mr. Rathbun:

Sincerely,

In accordance with the Stipulated Agreement in Docket PG-150120 Cascade Natural Gas Corporation (CNGC) hereby submits its Maximum Allowable Operating Pressure (MAOP) Determination & Validation Plan. This plan outlines how CNGC will collect information, prioritize, and execute steps to confirm the MAOP for high pressure pipelines in Washington.

If there are any questions regarding this update please contact Jeremy Ogden at (509) 734-4509.

Sincerely,

Eric Martuscelli
Vice President, Operations
Cascade Natural Gas Corporation

Cascade Natural Gas Corporation

MAOP Determination & Validation Plan

in accordance with

Stipulated Agreement in Docket No. PG-150120

Cascade Natural Gas Corporation (Cascade) has prepared a Maximum Allowable Operating Pressure (MAOP) Determination & Validation Plan for all high pressure (HP) pipelines in the State of Washington. The purpose of this plan is to determine and verify the MAOP of all HP pipelines for which there is insufficient documentation to confirm the current MAOP. This MAOP Validation Plan consists of the following elements:

1. Summary of all HP pipelines with data currently insufficient to demonstrate and confirm MAOP
2. Determination of MAOP for each segment of pipeline
3. Process that Cascade will use to validate data to calculate hoop stress for unknown pipe
4. Action plan for each pipeline segment
5. Rationale describing prioritization of each action plan
6. Process for corrective actions and updates to plan
7. Schedule listing time frames for completion of action plan for each pipeline segment

Beginning in 2013, Cascade performed a comprehensive search of records to locate information that can be used to validate MAOP on HP pipelines in the state of Washington. Critical information that can validate MAOP includes, but is not limited to, pipeline diameter, wall thickness, pipe grade (i.e. X52), pressure rating of fitting, longitudinal seam type, pressure test records, and as-built records. Records searched included those in storage facilities, Cascade's District Offices and Kennewick General Office, and electronic records. This plan is based on the results of that search.

Summary of HP Systems

Table 1 lists the HP pipeline segments with data currently insufficient to demonstrate and confirm MAOP. This table also includes the MAOP, pipeline segment description, installation year, pipe diameter, pipe wall thickness, pipe grade, test pressure, % Specified Minimum Yield Strength (SMYS), critical missing information, and action plan. Information for this table was gathered through a comprehensive review of all of Cascade's available records. Critical missing information (wall thickness, pipe grade, pressure test) is highlighted in this table. Values shown in yellow highlighted fields indicate that Cascade has assumed the most stringent criteria for missing values.

If assuming the most stringent criteria resulted in a pipeline segment operating with a hoop stress of 20% SMYS or greater, that pipeline segment was reclassified as transmission and incorporated into Cascade's Transmission Integrity Management Program (TIMP). Additionally, these pipeline segments will have baseline assessments completed by February 2, 2018 and will be leak surveyed two (2) times per calendar year. Table 2 lists the pipeline segments that were reclassified as transmission. The entirety of some pipelines were classified as transmission even though only segments are operating at 20% SMYS or above.

In some instances, assuming the most stringent criteria for missing information resulted in a pre-1970 pipeline segment operating at greater than 30% SMYS. Those pipelines segments, and the justification for the corresponding action plan, are described below.

1. 8" Bellingham HP Line #1 – Testing up to this point indicates that this pipeline has a yield strength of 46,000 psi. This results in the pipeline operating at 18.9% SMYS, rather than 36.3% SMYS. Additionally, lowering the pressure to 20% below MAOP (288 psig) will result in Cascade likely not being able to supply gas to all customers. For these reasons, Cascade does not feel that it is prudent to lower the operating pressure and has made this pipeline one of the top priorities.
2. 8" Central Whatcom HP Line #3 – Pipeline is operating at greater than 20% below MAOP. Cascade does not plan to lower pressure further and has made this pipeline one of the top priorities.
3. 8" Lake Terrell Road Transmission Line #9 – Pipeline is connected to 8" Central Whatcom HP Line, is operating at greater than 20% below MAOP. Additionally, Cascade's as-built documents for this pipeline call this pipe out as Grade B, which will result in the pipeline operating at 24.91% SMYS. This pipeline is currently operating as transmission and will continue to remain so. Cascade does not plan to lower pressure further and has made this pipeline one of the top priorities.
4. 8" & 12" Bremerton Line #2 – Testing up to this point indicates that this pipeline has a yield strength of 46,000 psi and was manufactured with a high-frequency weld process. This results in the pipeline operating at 24.9% SMYS. Additionally, lowering the operating pressure to 20% below MAOP will result in Cascade likely not being able to supply gas to all customers in the Bremerton District. For these reasons Cascade does not feel that it is prudent to lower the operating pressure and has made this pipeline one of the top priorities.
5. 8" Anacortes HP Line #1 – Testing up to this point indicates that this pipeline has a yield strength of at least 42,000 psi and was manufactured with a high frequency weld process. This results in the pipeline operating at 19.7% SMYS or below. For these reasons Cascade does not feel that it is prudent to lower the operating pressure and has made this pipeline one of the top priorities.
6. 8" March Point HP Line #2 – Cascade will fabricate a regulator station and modify set points on the existing regulator station feeding this pipeline to lower the operating pressure to 20% below MAOP and meet customer demands. The lower operating pressure will result in the pipeline operating at 27.53% SMYS. In situ testing on this pipeline is Cascade's highest priority and will be performed in 2016.

Determination of MAOP

Tables 3-7 list the basis of determination for Cascade's pipeline segments which are missing critical information. Table 3 lists the pipelines that Cascade considers low-risk due to knowing wall thickness and pipe grade, operating below 20% SMYS, with the pressure test as the only missing information. Cascade has been safely operating these pipelines for approximately 50 years and requests an allowance to continue operating these pipelines at the currently established operating pressure and MAOP.

Table 4 lists the pipelines that Cascade considers low-risk due to operating below 20% SMYS with the most stringent criteria for missing critical information applied. These pipelines do not have pressure test records. Cascade has been safely operating these pipelines for approximately 50 years and requests an

allowance to accept the most stringent criteria as final and continue operating these pipelines at the currently established operating pressure and MAOP.

Table 5 lists the pre-code pipelines for which Cascade has a pressure test, but the pressure test is not sufficient for the current MAOP. The wall thickness and pipe grade are known for these pipelines. Cascade has been safely operating these pipelines for approximately 50 years and requests an allowance to continue operating these pipelines at the currently established operating pressure and MAOP until an uprate can be completed.

Table 6 lists the pipelines which will undergo pressure testing, in situ testing, replacement, or other verification method. Cascade requests an allowance to continue operating all but one of these pipelines at the currently established operating pressure and MAOP until validation efforts are complete. The lone exception is the previously-mentioned 8" March Point HP Line #2, which will undergo a pressure reduction.

Table 7 lists the pipelines which have the MAOP determined by pressure testing. Validation efforts will be performed on some of these pipelines, and on some pipelines the most stringent criteria will be applied as final.

In all but three instances where Cascade requests an allowance to operate at the currently established operating pressure and MAOP, the MAOP is less than the most conservative design pressure calculated as prescribed in 49 CFR 192.105. In the three exceptions, the assumed yield strength results in a design pressure lower than the MAOP. However, all three pipelines have pressure test records and test results or as-built records giving a preliminary indication that the yield strength is greater than the most stringent criteria.

Processes to Validate Data

In addition to gathering information through a comprehensive review of all available records, Cascade's plan will include gathering and verifying data from pipelines in service. Methods that will be employed include:

1. Measuring pipe wall thickness with Ultrasonic Thickness (UT) gauge
2. Verifying pipe grade and/or longitudinal seam type through mechanical testing of samples at an accredited materials testing laboratory in accordance with 49 CFR 192.107
3. Verifying pipe grade by non-destructive in situ testing as described in a letter to the Washington Utilities and Transportation Commission (UTC) on June 2, 2015
4. Confirming pipe diameter through field measurements
5. Pressure testing
6. Exposing rated fittings to verify pressure rating

As information is collected the records will be stored on Cascade's SharePoint site. Any process used to validate data not listed above will be submitted to the UTC for review.

Cascade has contracted Parametrix, Inc. (Parametrix) to perform a statistical analysis of all pipeline segments with missing pipe grade and to determine the number of sampling points that will be required to validate pipe grade. This analysis will be conducted in accordance with 49 CFR 192 Appendix B – Qualification of Pipe. Parametrix will also work with Cascade's Engineering Services and local districts to identify the testing locations. Parametrix has completed the analysis for pipelines in Cascade's Bellingham and Mt. Vernon districts, and those results have been used to estimate the number of sampling points that will be required on pipelines in other districts until the analysis is completed in 2016.

Cascade has also contacted ABI Services, LLC (ABI), located in Oak Ridge, Tennessee, to perform in situ testing at the determined locations. Information describing their testing process was sent to the UTC on June 2, 2015, and approval of this testing method was received on January 12, 2016. Das-Co of Idaho, Inc. will be the excavation contractor used for the in situ testing.

Action Plan

Cascade has reviewed each segment of HP pipeline and identified those segments with missing critical information. Table 1 contains the pipelines by district and the overall action plans for each. The time frames for completion of each action plan are shown in Table 8. Plans of action include replacement, pressure testing, lowering pressure, mechanical testing of samples, statistical analysis and in situ testing, uprating, and operating pipeline with assumptions.

Prioritization

Cascade has prepared a matrix to individually evaluate each segment of HP pipeline with missing critical information. Components of the priority matrix, in descending order of weighting, are: urgent need, % SMYS of pipe and fittings, pressure rating of fittings, population density near pipeline, length of pipeline segment, and presence of as-built and pressure test records. The matrix produced a total prioritization score for each segment of pipeline and a prioritization score per length of pipeline. These scores were then combined with Subject Manner Expert (SME) knowledge of pipelines to finalize priorities. In general, pipeline segments operating at greater than 30% SMYS which were constructed prior to 1970 were the highest priorities, with subsequent priorities following the descending order of % SMYS.

Process for Corrective Actions and Update to Plan

Cascade will continue to evaluate all current and future HP pipelines on an ongoing basis to verify that critical information used to validate MAOP is known and to identify when immediate corrective actions are required. Existing pipelines will be evaluated annually by Cascade's Engineering Services group. Documentation for new pipelines will be audited by Cascade's Standards & Compliance group or Engineering Services group as construction of new pipelines is completed. If any critical information necessary to validate MAOP is discovered to be insufficient, corrective actions will be taken. Corrective actions include, but are not limited to, review of records as well as the processes used to validate data listed above.

Until a pipeline's characteristics can be verified, Cascade will assume the most stringent criteria for unknown pipe characteristics, as described in 49 CFR 192.107 & 109. If these assumptions result in a pipeline operating at 20% SMYS or greater, the pipeline will be leak surveyed two (2) times per calendar year and incorporated into Cascade's TIMP. For these pipelines, Cascade will perform a threat evaluation, and incorporate the pipe into risk and pipe assessments. Baseline assessments for all pipelines reclassified as transmission status shall be completed within three (3) years of reclassification.

When information is verified that results in a pipeline operating at a higher or lower % SMYS, changing classification from transmission to HP, or other similar actions, this plan will be amended and updated. If an amendment to the plan is necessary, Cascade will submit the proposed amended plan to Commission Staff for review at least ninety (90) days prior to the time Cascade submits the amended plan to the Commission for formal approval.

Cascade will also submit to Commission Staff an annual status report on the progress in implementing this plan. The annual status report will be submitted by March 15 of each year. As part of the annual status report every aspect of the plan will be reviewed and the tables and schedule will be revised as required. Test results will be updated, as well as any resulting changes in priorities and schedule. If Cascade decides to accept the most stringent criteria as the final resolution for a particular line segment, that will be included in an amended plan or annual status report and submitted to the Commission for approval.

Schedule

Table 8 below provides the schedule for the action plans for each HP pipeline segment with missing critical information. In situ testing, replacement, pressure testing, and fitting exposure have been scheduled commensurate with the availability of resources. The number of in situ tests that are scheduled to be completed each year are based on Cascade's prior experience with ECDA and ICDA digs as part of Cascade's TIMP.

TABLES

Table 1

HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	Test Pressure (psig)	% SMYS	Action Plan
Bellingham District										
1	8" Bellingham H.P. Line	380	Line 1-1	1956	8.625	0.188	24,000		36.3%	Request allowance to continue operating pipeline at pressure currently established, preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established.
2	Bellingham H.P. Distribution System	155	fish-1	1956	8.625	0.188	24,000		14.8%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.
			fish-2	1956	10.75	0.188	24,000		18.5%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.
			10c3298	1960	4.5	0.156	24,000		9.3%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			10c8241	1964	4.5	0.188	35,000		5.3%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			10c9683	1965	6.625	0.188	35,000		7.8%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			11480-1	1966	6.625	0.188	35,000		7.8%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			11480-2	1966	8.625	0.188	35,000		10.2%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			13150	1967	2.375	0.154	35,000	100	3.4%	Converted to Intermediate Pressure.
			20564	1972	4.5	0.156	24,000	225	9.3%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
3	8" Central Whatcom H.P. Line	380	Line 3-1	1957	8.625	0.188	24,000		36.3%	Preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established (20% below MAOP).
			40855 (Transition fittings)	1993	8.625	0.188	24,000	680	36.3%	Third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established (20% below MAOP).
4	4" South Lynden H.P. Line	250	Line 4-1	1961	4.5	0.156	24,000		15.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
8	2" Nooksack H.P. Distribution System	250	16C7000	1963	2.375	0.154	24,000		8.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
9	8" Lake Terrell Rd Transmission Line	380	18734-1	1965	8.625	0.188	24,000	569	36.3%	Third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established (20% below MAOP).
10	16" N. Whatcom Transmission Line	600	18794	1971	16	0.25	52000	900	N/A	Expose and verify part # for elbow at V-175 and 4 plugs at V-38.
12	4" North Lynden H.P. Line	400	25773	1978	4.5	0.188	35000	600	N/A	Verify that Sav-A-Valve has sufficient pressure rating or is located on IP section.
21	12",16" & 4" Squalicum H.P. Line	250	41508	1993	16	0.281	24,000	620	29.7%	Third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness.
Aberdeen District										
1*	8" Kitsap Line	366	19261	1972	8.625	0.188	42000	750	N/A	Expose Sav-A-Valves and verify pressure rating.
3	4" McCleary H.P. Line	150	79C6323	1963	4.5	0.154	24,000		9.1%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.
8	4" Montesano H.P. Distribution System	135	77C6321	1964	4.5	0.188	35000		4.6%	Request allowance to continue operating low-risk pipeline at pressure currently established.
9	2" Elma Rendering Plant H.P. Line	150	78C7902-1	1964	2.375	0.156	35000		3.3%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			78C7902-2	1964	4.5	0.154	24000		9.1%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
15*	12" Kitsap H.P. Line	499	44000	1995	12.75	0.312	52000	1080	N/A	Expose Sav-A-Valves and verify pressure rating.
Bremerton District										
2	8" & 12" Bremerton Transmission Line	499	BremertonL2-1	1963	8.625	0.188	24,000	750	47.7%	Preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade.
6	4" Olympic View H.P. Line	499	20387	1973	4.5	0.188	42000	500	N/A	Verify that plugs have sufficient pressure rating.
11	8" Bremerton H.P. Line	144	20C6316	1964	8.625	0.188	46000		7.2%	Request allowance to continue operating low-risk pipeline at pressure currently established.
			18522	1971	8.625	0.188	35000		9.4%	Pressure test or replace, request allowance to continue operating pipeline at pressure currently established.
Mount Vernon District										
1	8" Anacortes H.P. Line	360	MTVL1-1	1957	8.625	0.188	24,000		34.4%	Preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established, validate pressure rating of line stopper fittings at V-3/V-4.
			18191	1972	8.625	0.188	35,000		23.6%	Replace, request allowance to continue operating pipeline at pressure currently established.
2	8" March Point H.P. Line	360	11C1144	1957	8.625	0.188	24,000		34.4%	Lower pressure to 20% below MAOP, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, upon completion of testing request allowance to continue operating pipeline at pressure currently established.
			11C1144	1957	8.625	0.25	24,000		25.9%	Lower pressure to 20% below MAOP, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, upon completion of testing request allowance to continue operating pipeline at pressure currently established.
			11C5628	1963	8.625	0.188	24,000		34.4%	Lower pressure by 20% and replace, request allowance to continue operating pipeline at pressure currently established until replacement.
3	Anacortes H.P. Distribution System	105	MTVL3-1	1956	6.625	0.188	24,000		7.7%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.
			MTVL3-2	1956	8.625	0.188	24,000		10.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.
4	4" Mount Vernon H.P. Line	250	MTVL4-1	1957	4.5	0.156	24,000	400	15.0%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
5	3" Burlington H.P. Line	249	211220	1957	3.5	0.156	24,000		11.6%	Request allowance to continue operating low-risk pipeline at pressure currently established until replacement in 2016.
7	4" North Texas Rd H.P. Line	250	11C2775	1960	2.375	0.154	24,000		8.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
8	4" Arlington H.P. Line	249	Fish 18C4272	1961	4.5	0.156	24,000		15.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
10	4" Sedro-Woolley H.P. Line	100	14788	1968	4.5	0.188	35000	100	3.4%	Conduct uprate to validate MAOP.
12	6" North Oak Harbor H.P. Line	400	17206	1972	6.625	0.188	42000	675	N/A	Validate pressure rating of line stopper fitting, elbow at V-193, and Sav-A-Valve and service tee at V-104.
14	16" Fredonia Transmission Line	500	30636 (Transition fittings)	1983	16	0.281	24,000	750	59.3%	Third party to perform statistical analysis to determine the number of test points and identify their locations. In situ testing to verify pipe grade and wall thickness.
			30636 (Elbows)	1983	16	0.375	35,000	750	30.5%	Third party to perform statistical analysis to determine the number of test points and identify their locations. In situ testing to verify pipe grade and wall thickness.
16	16" March Point Transmission Line	500	40000 (Transition fittings)	1992	16	0.281	24,000	750	59.3%	Third party to perform statistical analysis to determine the number of test points and identify their locations. In situ testing to verify pipe grade and wall thickness.
			40000 (Elbows)	1992	16	0.375	35,000	750	30.5%	Third party to perform statistical analysis to determine the number of test points and identify their locations. In situ testing to verify pipe grade and wall thickness.

HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	Test Pressure (psig)	% SMYS	Action Plan
Longview District										
1	Longview-Kelso H.P. Distribution Line	250	Pre-CNGC-L1-1	1957	12.75	0.25	24,000	400	26.6%	Conduct study to determine replacement options and projects, test existing samples.
			Pre-CNGC-L1-2	1957	4.5	0.156	24,000		15.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			28621	1980	12.75	0.25	52,000		12.3%	Pressure test or replace, request allowance to continue operating pipeline at pressure currently established.
2	4" Kalama H.P. Line	300	24676	1976	4.5	0.188	35,000		10.3%	Pressure test or replace, request allowance to continue operating pipeline at pressure currently established.
3	4" Dike Road H.P. Line (Longview)	80	82C8335	1965	4.5	0.156	24,000		4.8%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final for wall thickness and pipe grade, test samples as they become available.
8	8" Kalama H.P. Line	300	51820 (1)	1996	8.625	0.332	46,000		8.5%	Pressure test and request allowance to continue operating pipeline at pressure currently established or replace.
			51820 (2)	1997	8.625	0.188	24,000		28.7%	Pressure test and request allowance to continue operating pipeline at pressure currently established or replace.
			51820 (3)	1997	8.625	0.25	24,000		21.6%	Pressure test and request allowance to continue operating pipeline at pressure currently established or replace.
			51820 (4)	1997	8.625	0.25	46,000		11.3%	Pressure test and request allowance to continue operating pipeline at pressure currently established or replace.
7	12" South Longview H.P. Line	499	43600 (Transition fittings)	1995	12.75	0.312	24,000	1080	42.5%	Third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness.
Yakima District (Sunnyside)										
1	3" Sunnyside H.P. Line	200	Fish-L1-1	1956	3.5	0.156	24,000		9.3%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
2	2" South Sunnyside H.P. Line	200	42C2530	1959	2.375	0.154	24,000		6.4%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
3	4" Grandview H.P. Line	250	Fish-L2-1	1956	4.5	0.156	24,000		15.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
4	3" Prosser H.P. Line	250	YakimaL4-1	1956	3.5	0.156	24,000		11.7%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
5	6" Toppenish-Zillah H.P. Line	400	YakimaL5-1	1956	6.625	0.188	24,000		29.4%	Preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to operate pipeline at pressure currently established.
6	3" Zillah H.P. Line	400	fish-L6-1	1956	3.5	0.156	24,000		18.7%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
7	4" Wapato H.P. Line	152	fish-L7-1	1956	4.5	0.156	24,000		9.1%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
8	3" South Toppenish H.P. Line	175	fish-L8-1	1956	3.5	0.156	24,000		8.2%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
9	3" Granger H.P. Line	175	fish-L9-1	1956	3.5	0.156	24,000		8.2%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
Yakima District										
1	8" Yakima H.P. Line	200	Fish_968	1956	8.625	0.188	24,000		19.1%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			FISH_968_Lat_26	1956	8.625	0.5	24,000		7.2%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			40C4357	1961	8.625	0.188	24,000	352	19.1%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			20375	1978	8.625	0.25	46,000		7.5%	Pressure test or replace, request allowance to continue operating pipeline at pressure currently established.
Wenatchee District										
1	6" & 8" Moses Lake H.P. Line	250	WenL1-1	1957	6.625	0.188	24,000		18.4%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
			WenL1-2	1957	8.625	0.188	24,000		23.9%	Preliminary testing to be performed on available samples, third party to perform statistical analysis to determine the number of test points and identify their locations, in situ testing to verify pipe grade and wall thickness, request allowance to continue operating pipeline at pressure currently established.
			60390	1981	4.5	0.156	24,000	375	15.0%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
2	2" Wheeler H.P. Line	250	WenL2-2	1962	2.375	0.154	24,000		8.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available, verify pressure rating of block valve at R-53.
3	4" Othello Transmission Line	400	18998	1971	6.625	0.188	35,000	531	20.1%	Request allowance to continue operating pipeline at pressure currently established until replacement.
6	4" South Moses Lake H.P. Line	250	14455	1968	4.5	0.188	35000		8.5%	Request allowance to continue operating low-risk pipeline at pressure currently established.
10	6" West Wheeler H.P. Line	250	54006	1997	6.625	0.188	24,000	740	18.4%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
12	6" Wenatchee H.P. Line	225	2912 fish	1956	6.625	0.188	24,000		16.5%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available, validate pressure rating of stopper at oderizer.
Kennewick										
1	8"Attalia H.P. Line	300	01C4776	1958	8.625	0.188	24,000		28.7%	Request allowance to continue operating pipeline at pressure currently established, preliminary testing to be performed on available samples, conduct study to determine replacement options and projects, third party to perform statistical analysis to determine number of test points, operate with assumptions until replacement or in situ testing is performed.
			14375 (1)	1968	8.625	0.188	35,000		19.7%	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options, verify pressure rating of Sav-A-Valve.
			14375 (2)	1968	12.75	0.25	35,000		21.9%	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options, verify pressure rating of 1" bypass valve.
			14375 (3)	1968	12.75	0.375	35,000		14.6%	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options.
			14375 (4)	1968	12.75	0.33	35,000		16.6%	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options.
			14375 (5)	1968	12.75	0.25	52,000		14.7%	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options.
3	4" East Finley H.P. Line	250	12614	1967	4.5	0.188	35000	120	8.5%	Conduct uprate to validate MAOP.
4	Pasco H.P. Distribution System	300	KennL4-1	1960	4.5	0.156	24,000	450	18.0%	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
5	4" Northwest Pasco H.P. Line	300	11097 (1)	1966	4.5	0.188	35000		10.3%	Request allowance to continue operating low-risk pipeline at pressure currently established.
6	4" Glade Road H.P. Line	150	11097 (2)	1966	4.5	0.188	35000		5.1%	Request allowance to continue operating low-risk pipeline at pressure currently established.
7	2" Burbank H.P. Line	158	12301	1967	2.375	0.154	35000	100	3.5%	Conduct uprate to validate MAOP.
8	4" Finley H.P. Line	200	S3C2527	1959	4.5	0.156	24,000		12.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
Walla Walla										
1	8" Walla Walla H.P. Line	150	WWL1-1	1956	8.625	0.188	24,000		14.3%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.
2	3" College Place H.P. Line	150	WWL2-1	1956	3.5	0.156	24,000		7.0%	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.

Critical Missing Information | Post-Code Missing Pressure Test

Table 2								
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	% SMYS
Bellingham District								
1	8" Bellingham H.P. Line	380	Line 1-1	1956	8.625	0.188	24000	36.3%
3	8" Central Whatcom H.P. Line	380	Line 3-1	1957	8.625	0.188	24000	36.3%
			40855 (Transition fittings)	1993	8.625	0.188	24000	36.3%
21	12",16" & 4" Squalicum H.P. Line	250	41508	1993	16	0.281	24000	29.7%
Mount Vernon District								
1	8" Anacortes H.P. Line	360	MTVL1-1	1957	8.625	0.188	24000	34.4%
			18191	1972	8.625	0.188	35000	23.6%
2	8" March Point H.P. Line	360	11C1144	1957	8.625	0.188	24000	34.4%
			11C1144	1957	8.625	0.25	24000	25.9%
			11C5628	1963	8.625	0.188	24000	34.4%
Longview District								
1	Longview-Kelso H.P. Distribution Line	250	Pre-CNGC-L1-1	1957	12.75	0.25	24000	26.6%
8	8" Kalama H.P. Line	300	51820 (1)	1996	8.625	0.332	46000	8.5%
			51820 (2)	1997	8.625	0.188	24000	28.7%
			51820 (3)	1997	8.625	0.25	24000	21.6%
			51820 (4)	1997	8.625	0.25	46000	11.3%
Yakima District (Sunnyside)								
5	6" Toppenish-Zillah H.P. Line	400	YakimaL5-1	1956	6.625	0.188	24000	29.4%
Wenatchee District								
1	0	0	WenL1-1	1957	6.625	0.188	24000	18.4%
			WenL1-2	1957	8.625	0.188	24000	23.9%
			60390	1981	4.5	0.156	24000	15.0%
3	4" Othello Transmission Line	400	18998	1971	6.625	0.188	35000	20.1%
Kennewick								
0	0	0	O1C4776	1958	8.625	0.188	24000	28.7%
			14375 (1)	1968	8.625	0.188	35000	19.7%
			14375 (2)	1968	12.75	0.25	35000	21.9%
			14375 (3)	1968	12.75	0.375	35000	14.6%
			14375 (4)	1968	12.75	0.33	35000	16.6%
			14375 (5)	1968	12.75	0.25	52000	14.7%

Table 3									
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	% SMYS	Design Pressure (psig)
Bellingham District									
2	Bellingham H.P. Distribution System	155	10c8241	1964	4.5	0.188	35,000	5.3%	877
			10c9683	1965	6.625	0.188	35,000	7.8%	795
			11480-1	1966	6.625	0.188	35,000	7.8%	795
			11480-2	1966	8.625	0.188	35,000	10.2%	610
			13150	1967	2.375	0.154	35,000	3.4%	1,362
Aberdeen District									
8	4" Montesano H.P. Distribution System	135	77C6321	1964	4.5	0.188	35000	4.6%	877
9	2" Elma Rendering Plant H.P. Line	150	78C7902-1	1964	2.375	0.156	35000	3.3%	1,379
Bremerton District									
11	8" Bremerton H.P. Line	144	20C6316	1964	8.625	0.188	46000	7.2%	802
Wenatchee District									
6	4" South Moses Lake H.P. Line	250	14455	1968	4.5	0.188	35000	8.5%	877
Kennewick									
1	8"Attalia H.P. Line	300	14375 (1)	1968	8.625	0.188	35,000	19.7%	610
			14375 (3)	1968	12.75	0.375	35,000	14.6%	824
			14375 (4)	1968	12.75	0.33	35,000	16.6%	725
			14375 (5)	1968	12.75	0.25	52,000	14.7%	816
5	4" Northwest Pasco H.P. Line	300	11097 (1)	1966	4.5	0.188	35000	10.3%	877
6	4" Glade Road H.P. Line	150	11097 (2)	1966	4.5	0.188	35000	5.1%	877

Table 4									
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	% SMYS	Design Pressure (psig)
Bellingham District									
2	Bellingham H.P. Distribution System	155	fish-1	1956	8.625	0.188	24,000	14.8%	419
			fish-2	1956	10.75	0.188	24,000	18.5%	336
			10c3298	1960	4.5	0.156	24,000	9.3%	499
4	4" South Lynden H.P. Line	250	Line 4-1	1961	4.5	0.156	24,000	15.0%	499
8	2" Nooksack H.P. Distribution System	250	16C7000	1963	2.375	0.154	24,000	8.0%	934
Aberdeen District									
3	4" McCleary H.P. Line	150	79C6323	1963	4.5	0.154	24,000	9.1%	493
9	2" Elma Rendering Plant H.P. Line	150	78C7902-2	1964	4.5	0.154	24000	9.1%	493
Mount Vernon District									
3	Anacortes H.P. Distribution System	105	MTVL3-1	1956	6.625	0.188	24,000	7.7%	545
			MTVL3-2	1956	8.625	0.188	24,000	10.0%	419
5	3" Burlington H.P. Line	249	211220	1957	3.5	0.156	24,000	11.6%	642
7	4" North Texas Rd H.P. Line	250	11C2775	1960	2.375	0.154	24,000	8.0%	934
8	4" Arlington H.P. Line	249	Fish 18C4272	1961	4.5	0.156	24,000	15.0%	499
Longview District									
1	Longview-Kelso H.P. Distribution Line	250	Pre-CNGC-L1-2	1957	4.5	0.156	24,000	15.0%	499
3	4" Dike Road H.P. Line (Longview)	80	82C8335	1965	4.5	0.156	24,000	4.8%	499
Yakima District (Sunnyside)									
1	3" Sunnyside H.P. Line	200	Fish-L1-1	1956	3.5	0.156	24,000	9.3%	642
2	2" South Sunnyside H.P. Line	200	42C2530	1959	2.375	0.154	24,000	6.4%	934
3	4" Grandview H.P. Line	250	Fish-L2-1	1956	4.5	0.156	24,000	15.0%	499
4	3" Prosser H.P. Line	250	YakimaL4-1	1956	3.5	0.156	24,000	11.7%	642
6	3" Zillah H.P. Line	400	fish-L6-1	1956	3.5	0.156	24,000	18.7%	642
7	4" Wapato H.P. Line	152	fish-L7-1	1956	4.5	0.156	24,000	9.1%	499
8	3" South Toppenish H.P. Line	175	fish-L8-1	1956	3.5	0.156	24,000	8.2%	642
9	3" Granger H.P. Line	175	fish-L9-1	1956	3.5	0.156	24,000	8.2%	642
Yakima District									
1	8" Yakima H.P. Line	200	Fish_968	1956	8.625	0.188	24,000	19.1%	419
			FISH_968_Lat_26	1956	8.625	0.5	24,000	7.2%	1,113
Wenatchee District									
1	6" & 8" Moses Lake H.P. Line	250	WenL1-1	1957	6.625	0.188	24,000	18.4%	545
2	2" Wheeler H.P. Line	250	WenL2-2	1962	2.375	0.154	24,000	8.0%	934
10	6" West Wheeler H.P. Line	250	54006	1997	6.625	0.188	24,000	18.4%	545
12	6" Wenatchee H.P. Line	225	2912 fish	1956	6.625	0.188	24,000	16.5%	545
Kennewick									
8	4" Finley H.P. Line	200	53C2527	1959	4.5	0.156	24,000	12.0%	499
Walla Walla									
1	8" Walla Walla H.P. Line	150	WWL1-1	1956	8.625	0.188	24,000	14.3%	419
2	3" College Place H.P. Line	150	WWL2-1	1956	3.5	0.156	24,000	7.0%	642

Table 5										
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	Test Pressure (psig)	% SMYS	Design Pressure (psig)
Mount Vernon District										
10	4" Sedro-Woolley H.P. Line	100	14788	1968	4.5	0.188	35000	100	3.4%	877
Kennewick										
3	4" East Finley H.P. Line	250	12614	1967	4.5	0.188	35000	120	8.5%	877
7	2" Burbank H.P. Line	158	12301	1967	2.375	0.154	35000	100	3.5%	1,362

Table 6									
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	% SMYS	Design Pressure (psig)
Bellingham District									
1	8" Bellingham H.P. Line	380	Line 1-1	1956	8.625	0.188	24,000	36.3%	419
3	8" Central Whatcom H.P. Line	380	Line 3-1	1957	8.625	0.188	24,000	36.3%	419
Bremerton District									
2	8" & 12" Bremerton Transmission Line	499	BremertonL2-1	1963	8.625	0.188	24,000	47.7%	419
11	8" Bremerton H.P. Line	144	18522	1971	8.625	0.188	35000	9.4%	610
Mount Vernon District									
1	8" Anacortes H.P. Line	360	MTVL1-1	1957	8.625	0.188	24,000	34.4%	419
			18191	1972	8.625	0.188	35,000	23.6%	610
2	8" March Point H.P. Line	360	11C1144	1957	8.625	0.188	24,000	34.4%	419
			11C1144	1957	8.625	0.25	24,000	25.9%	557
			11C5628	1963	8.625	0.188	24,000	34.4%	419
Longview District									
1	Longview-Kelso H.P. Distribution Line	250	28621	1980	12.75	0.25	52,000	12.3%	816
2	4" Kalama H.P. Line	300	24676	1976	4.5	0.188	35,000	10.3%	877
8	8" Kalama H.P. Line	300	51820 (1)	1996	8.625	0.332	46,000	8.5%	1,417
			51820 (2)	1997	8.625	0.188	24,000	28.7%	419
			51820 (3)	1997	8.625	0.25	24,000	21.6%	557
			51820 (4)	1997	8.625	0.25	46,000	11.3%	1,067
Yakima District (Sunnyside)									
5	6" Toppenish-Zillah H.P. Line	400	YakimaL5-1	1956	6.625	0.188	24,000	29.4%	545
Yakima District									
1	8" Yakima H.P. Line	200	20375	1978	8.625	0.25	46,000	7.5%	1,067
Wenatchee District									
1	6" & 8" Moses Lake H.P. Line	250	WenL1-2	1957	8.625	0.188	24,000	23.9%	419
3	4" Othello Transmission Line	400	18998	1971	6.625	0.188	35,000	20.1%	795
Kennewick									
1	8"Attalia H.P. Line	300	O1C4776	1958	8.625	0.188	24,000	28.7%	419
			14375 (2)	1968	12.75	0.25	35,000	21.9%	549

Table 7										
HP Line #	HP Line Name	MAOP (psig)	HP Line Segment/WO Number	Year Installed	Diameter (in.)	Wall Thickness (in.)	Yield Strength (psi)	Test Pressure (psig)	% SMYS	Design Pressure (psig)
Bellingham District										
2	Bellingham H.P. Distribution System	155	20564	1972	4.5	0.156	24,000	225	9.3%	499
3	8" Central Whatcom H.P. Line	380	40855 (Transition fittings)	1993	8.625	0.188	24,000	680	36.3%	419
9	8" Lake Terrell Rd Transmission Line	380	18734-1	1965	8.625	0.188	24,000	569	36.3%	419
10	16" N. Whatcom Transmission Line	600	18794	1971	16	0.25	52000	900	N/A	650
12	4" North Lynden H.P. Line	400	25773	1978	4.5	0.188	35000	600	N/A	877
21	12",16" & 4" Squalicum H.P. Line	250	41508	1993	16	0.281	24,000	620	29.7%	337
Aberdeen District										
1*	8" Kitsap Line	366	19261	1972	8.625	0.188	42000	750	N/A	732
15*	12" Kitsap H.P. Line	499	44000	1995	12.75	0.312	52000	1080	N/A	1,018
Bremerton District										
6	4" Olympic View H.P. Line	499	20387	1973	4.5	0.188	42000	500	N/A	1,053
Mount Vernon District										
4	4" Mount Vernon H.P. Line	250	MTVL4-1	1957	4.5	0.156	24,000	400	15.0%	499
12	6" North Oak Harbor H.P. Line	400	17206	1972	6.625	0.188	42000	675	N/A	953
14	16" Fredonia Transmission Line	500	30636 (Transition fittings)	1983	16	0.281	24,000	750	59.3%	337
			30636 (Elbows)	1983	16	0.375	35,000	750	30.5%	656
16	16" March Point Transmission Line	500	40000 (Transition fittings)	1992	16	0.281	24,000	750	59.3%	337
			40000 (Elbows)	1992	16	0.375	35,000	750	30.5%	656
Longview District										
1	Longview-Kelso H.P. Distribution Line	250	Pre-CNGC-L1-1	1957	12.75	0.25	24,000	400	26.6%	376
7	12" South Longview H.P. Line	499	43600 (Transition fittings)	1995	12.75	0.312	24,000	1080	42.5%	470
Yakima District										
1	8" Yakima H.P. Line	200	40C4357	1961	8.625	0.188	24,000	352	19.1%	419
Wenatchee District										
1	6" & 8" Moses Lake H.P. Line	250	60390	1981	4.5	0.156	24,000	375	15.0%	499
Kennewick										
4	Pasco H.P. Distribution System	300	KennL4-1	1960	4.5	0.156	24,000	450	18.0%	499

Table 8

HP Line #	HP Line Name	HP Line Segment/WO Number	2016 Action	2017 Action	2018 Action	2019 Action	2020 Action	2021 Action	2022 Action
Bellingham District									
1	8" Bellingham H.P. Line	Line 1-1	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis, replace section at Squalicum Creek crossing and test samples from that project	In situ testing at 35 locations					
2	Bellingham H.P. Distribution System	fish-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.						
		fish-2	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.						
		10c3298	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		10c8241	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		10c9683	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		11480-1	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		11480-2	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		13150	Converted to Intermediate Pressure.						
		20564	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
3	8" Central Whatcom H.P. Line	Line 3-1	Operate at 20% below MAOP, perform statistical analysis	In situ testing at 70 locations	In situ testing at 65 locations				
		40855 (Transition fittings)	Operate at 20% below MAOP, perform statistical analysis	In situ testing at 10 locations					
4	4" South Lynden H.P. Line	Line 4-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
8	2" Nooksack H.P. Distribution System	16C7000	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
9	8" Lake Terrell Rd Transmission Line	18734-1	Request allowance to operate at 20% below MAOP, perform statistical analysis			In situ testing at 26 locations			
10	16" N. Whatcom Transmission Line	18794	Expose and verify part # for elbow at V-175 and 4 plugs at V-38.						
12	4" North Lynden H.P. Line	25773	Verify that Sav-A-Valve has sufficient pressure rating or is located on IP section.						
21	12",16" & 4" Squalicum H.P. Line	41508	Perform statistical analysis		In situ testing at 13 locations				
Aberdeen District									
1"	8" Kitsap Line	19261	Expose Sav-A-Valves and verify pressure rating.						
3	4" McCleary H.P. Line	79C6323	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.						
8	4" Montesano H.P. Distribution System	77C6321	Request allowance to continue operating low-risk pipeline at pressure currently established.						
9	2" Elma Rendering Plant H.P. Line	78C7902-1	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		78C7902-2	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
15"	12" Kitsap H.P. Line	44000	Expose Sav-A-Valves and verify pressure rating.						
Bremerton District									
2	8" & 12" Bremerton Transmission Line	BremertonL2-1	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis	In situ testing at approximately 15 locations					
6	4" Olympic View H.P. Line	20387	Verify that plugs have sufficient pressure rating.						

11	8" Bremerton H.P. Line	20C6316	Request allowance to continue operating low-risk pipeline at pressure currently established.						
		18522	Request allowance to continue operating pipeline at pressure currently established.		Pressure test or replace.				
Mount Vernon District									
1	8" Anacortes H.P. Line	MTVL1-1	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis	Approximately 9 miles to be retired and replaced	In situ testing at approximately 65 locations	In situ testing at approximately 65 locations			
		18191	Request allowance to continue operating pipeline at pressure currently established until replacement	Replace					
2	8" March Point H.P. Line	11C1144	Lower operating pressure to be 20% below MAOP, perform statistical analysis, and in situ testing at 21 locations						
		11C1144	Lower operating pressure by 20%, perform statistical analysis	In situ testing at 10 locations					
		11C5628	Lower operating pressure by 20%	Replacement					
3	Anacortes H.P. Distribution System	MTVL3-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.						
		MTVL3-2	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final pipe grade, test samples as they become available.						
4	4" Mount Vernon H.P. Line	MTVL4-1	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
5	3" Burlington H.P. Line	211220	Request allowance to continue operating low-risk pipeline at pressure currently established until replacement in 2016.						
7	4" North Texas Rd H.P. Line	11C2775	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
8	4" Arlington H.P. Line	Fish 18C4272	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
10	4" Sedro-Woolley H.P. Line	14788	Request allowance to continue operating low-risk pipeline at pressure currently established until uprate is completed	Conduct uprate to validate MAOP					
12	6" North Oak Harbor H.P. Line	17206	Validate pressure rating of line stopper fitting, elbow at V-193, and Sav-A-Valve and service tee at V-104						
14	16" Fredonia Transmission Line	30636 (Transition fittings)	Perform statistical analysis			In situ testing at 15 locations			
		30636 (Elbows)	Perform statistical analysis			In situ testing at 10 locations			
16	16" March Point Transmission Line	40000 (Transition fittings)	Perform statistical analysis			In situ testing at 2 locations			
		40000 (Elbows)	Perform statistical analysis			In situ testing at 10 locations			
Longview District									
1	Longview-Kelso H.P. Distribution Line	Pre-CNGC-L1-1	Conduct study to determine replacement options and projects, test existing samples	Replace Phase I	Replace Phase II	Prepace Phase III	Preplace Phase IV		
		Pre-CNGC-L1-2	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		28621	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	
2	4" Kalama H.P. Line	24676	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	Pressure test or replace
3	4" Dike Road H.P. Line (Longview)	82C8335	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final for wall thickness and pipe grade, test samples as they become available.						
		51820 (1)	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	Pressure test or replace

8	8" Kalama H.P. Line	51820 (2)	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	Pressure test or replace
		51820 (3)	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	Pressure test or replace
		51820 (4)	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.					Pressure test or replace	Pressure test or replace
7	12" South Longview H.P. Line	43600 (Transition fittings)	Perform statistical analysis			In situ testing at approximately 10 locations			
Yakima District (Sunnyside)									
1	3" Sunnyside H.P. Line	Fish-L1-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
2	2" South Sunnyside H.P. Line	42C2530	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
3	4" Grandview H.P. Line	Fish-L2-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
4	3" Prosser H.P. Line	YakimaL4-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
5	6" Toppenish-Zillah H.P. Line	YakimaL5-1	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis and test available samples	Replace section on Fraley Road and test samples			In situ testing at approximately 82 locations		
6	3" Zillah H.P. Line	fish-L6-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
7	4" Wapato H.P. Line	fish-L7-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
8	3" South Toppenish H.P. Line	fish-L8-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
9	3" Granger H.P. Line	fish-L9-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
Yakima District									
1	8" Yakima H.P. Line	Fish_968	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		FISH_968_Lat_26	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		40C4357	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		20375	Request allowance to continue operating pipeline at pressure currently established until pressure test or replacement is complete.		Pressure test or replace				

Wenatchee District									
1	6" & 8" Moses Lake H.P. Line	WenL1-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
		WenL1-2	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis				In situ testing at approximately 33 locations		
		60390	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
2	2" Wheeler H.P. Line	WenL2-2	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available, verify pressure rating of block valve at R-53						
3	4" Othello Transmission Line	18998	Request allowance to continue operating pipeline at pressure currently established until replacement is complete.	Replace 191 ft section at Booker Road Bridge					
6	4" South Moses Lake H.P. Line	14455	Request allowance to continue operating low-risk pipeline at pressure currently established.						
10	6" West Wheeler H.P. Line	54006	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
12	6" Wenatchee H.P. Line	2912 fish	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.	Validate pressure rating of stopper at odorizer.					
Kennewick District									
1	8"Attalia H.P. Line	01C4776	Request allowance to continue operating pipeline at pressure currently established, perform statistical analysis and replacement study				In situ testing at approximately 40 locations	In situ testing at approximately 156 locations	
		14375 (1)	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options, verify pressure rating of Sav-A-Valve.						Replacement or testing
		14375 (2)	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options						
		14375 (3)	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options						
		14375 (4)	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options						
		14375 (5)	Request allowance to continue operating pipeline at pressure currently established, conduct study to determine replacement and testing options						
3	4" East Finley H.P. Line	12614	Request allowance to continue operating low-risk pipeline at pressure currently established until uprate is completed	Conduct uprate to validate MAOP					
4	Pasco H.P. Distribution System	KennL4-1	Accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
5	4" Northwest Pasco H.P. Line	11097 (1)	Request allowance to continue operating low-risk pipeline at pressure currently established.						
6	4" Glade Road H.P. Line	11097 (2)	Request allowance to continue operating low-risk pipeline at pressure currently established.						
7	2" Burbank H.P. Line	12301	Request allowance to continue operating low-risk pipeline at pressure currently established until uprate is completed	Conduct uprate to validate MAOP					
8	4" Finley H.P. Line	53C2527	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
Walla Walla District									
1	8" Walla Walla H.P. Line	WWL1-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						
2	3" College Place H.P. Line	WWL2-1	Request allowance to continue operating low-risk pipeline at pressure currently established, accept most stringent criteria as final wall thickness and pipe grade, test samples as they become available.						