

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

CASCADE NATURAL GAS
CORPORATION,

Respondent.

DOCKET PG-150120

NARRATIVE SUPPORTING
AMENDED SETTLEMENT
AGREEMENT

I. INTRODUCTION

1. Staff of the Washington Utilities and Transportation Commission (Commission Staff) and Cascade Natural Gas Corporation (CNGC or Company) (collectively, the parties) have reached agreement on an Amended Settlement Agreement (Amended Agreement) in Docket PG-150120, which concerns CNGC's compliance with regulations governing maximum allowable operating pressure (MAOP). Commission Staff and CNGC agreed to file an Amended Agreement in this docket under the terms of the original Settlement Agreement filed on December 15, 2016 (2016 Agreement). The Amended Agreement is intended to provide updated timeframes for completion of documentation of the basis of the MAOP of all pipeline segments and facilities operating above 60 psig, following completion of a records review by TRC Pipeline Services (TRC), pursuant to the terms of the 2016 Agreement. The Amended Agreement also documents the tasks CNGC has completed in the Compliance Program section of the 2016 Agreement. The Amended Agreement proposes to modify the amount of suspended penalties to reflect the completed tasks.

2. This Narrative is intended to provide the evidentiary basis for Commission approval of the Amended Agreement entered into by the parties in this case. Nothing in this Narrative modifies the Amended Agreement. The parties respectfully request that the Commission approve the Amended Agreement without conditions, pursuant to WAC 480-07-750.

II. PROPOSAL FOR REVIEW

3. If the Commission convenes a public settlement hearing to review the Amended Agreement, the parties will present one or more witnesses each to testify in support of the Amended Agreement and to answer questions concerning its terms, costs, and benefits, pursuant to WAC 480-07-740(2)(b).

III. APPLICABLE LAW

4. The Commission has authority under RCW 80.01.040 to regulate CNGC in the public interest. RCW 81.88.065 gives the Commission authority to “develop and administer a comprehensive program of gas pipeline safety” in accordance with RCW 81.88. The Commission has jurisdiction over CNGC because it is a “gas pipeline company” within the meaning of RCW 81.88.010(4), WAC 480-93-005(13), and WAC 480-93-223.

5. In 1970, the federal government promulgated minimum pipeline safety standards in accordance with the Natural Gas Pipeline Safety Act of 1968. One set of standards required pipeline operators to establish the MAOP for every pipeline segment in the operator’s service territory. Operators must maintain documentation sufficient to prove compliance.

6. CNGC's duty to establish MAOP documentation in compliance with federal standards is set forth in the "Applicable Law" section of the narrative filed with the 2016 Agreement and is incorporated herein by reference.

7. Under WAC 480-07-730, a "full settlement" is "[a]n agreement of all parties that would resolve all issues in a proceeding."

8. WAC 480-07-750 provides, "The commission will approve settlements when doing so is lawful, when the settlement terms are supported by an appropriate record, and when the result is consistent with the public interest in light of all the information available to the commission."

IV. BACKGROUND FACTS RELATING TO AMENDED AGREEMENT

9. Commission Staff and CNGC entered into the 2016 Agreement as a settlement of the Complaint filed against CNGC with respect to CNGC's failure to fully document the basis for the MAOP of its distribution system operating above 60 psig. The 2016 Agreement included a Compliance Program as well as penalties in the amount of \$2,500,000, of which \$1.5 million were suspended on the condition CNGC complete specified tasks in the Compliance Program. The Commission approved the 2016 Agreement with conditions, which conditions were accepted by CNGC and Commission Staff. On March 29, 2017, CNGC paid \$1,000,000, which is the total amount of penalties that were not suspended.

10. In the Compliance Program section of the 2016 Agreement, CNGC agreed to complete certain tasks related to MAOP validation by specified dates, including the validation of the MAOP of pipeline segments operating above 60 psig. However, the Compliance Program recognized that additional information was needed to develop a full

MAOP validation plan and that an amended settlement agreement would need to be filed once additional information was obtained. The Compliance Program acknowledged that CNGC had retained TRC to complete an MAOP records review of all remaining pipeline segments and facilities operating above 60 psig, which would provide a more complete picture of the pipeline segments and facilities requiring documentation of MAOP validation.¹ CNGC agreed to incorporate any additional high pressure pipeline segments operating above 60 psig that have been identified by TRC as missing critical information necessary to document the basis for validation of MAOP into the risk matrix to identify mitigation prioritization.² The Compliance Program required CNGC to submit an updated timeline/plan to Commission Staff by December 31, 2017.³ In the 2016 Agreement, Commission Staff and CNGC agreed to file an amended settlement agreement with the Commission by March 31, 2018, reflecting a “completion date by which CNGC will document the basis for validation of all the high pressure (greater than 60 psig) MAOP for the additional segments identified by TRC.”⁴ The 2016 Agreement provided that “[t]he Amended Settlement Agreement will include “a \$500,000 suspended penalty, imposed in full if CNGC fails to comply with the completion date associated with any new high pressure segments identified by TRC.”⁵

11. CNGC completed the TRC records review by March 31, 2017, as required by subsection 1.c of the Compliance Program in the 2016 Agreement. The TRC review

¹ See 2016 Agreement at V.B.1.c (“CNGC has retained TRC Pipelines Service LLC (TRC) to complete a records review of all remaining pipelines operating above 60 psig. The TRC MAOP records review will be completed by the end of first quarter 2017.”).

² See *id.* at V.B.1.d.

³ See *id.* at V.B.1.d.i.

⁴ *Id.* at V.B.1.d.ii.

⁵ *Id.*

identified 2,553 additional segments and 336 facilities that were missing critical information necessary to document MAOP validation, with a pipe length of 111 miles.⁶ The additional segments and facilities are discussed in more detail below.

12. On December 29, 2017, CNGC submitted an updated timeline/plan that included the additional segments and facilities identified by TRC, as required by the 2016 Agreement. In early 2018, CNGC and Commission Staff met on multiple occasions to review the plan and develop an approach to addressing MAOP validation based on risk scores rather than mileage completed. The Amended Agreement adopts that approach.

V. SUMMARY OF AMENDED SETTLEMENT AGREEMENT

13. The Amended Agreement complies with the terms of the 2016 Agreement executed by CNGC and Commission Staff and approved by the Commission. In the 2016 Agreement, CNGC agreed to retain TRC to complete a records review of all remaining pipelines operating above 60 psig by March 31, 2017. Also, CNGC and Commission Staff agreed to file an Amended Settlement Agreement with the Commission by March 31, 2018, that reflects a “completion date by which CNGC will document the basis for validation of all the high pressure (greater than 60 psig) MAOP for the additional segments identified by TRC.”⁷ As discussed in more detail below, the Amended Agreement complies with the terms of the 2016 Agreement and updates the 2016 Agreement to reflect work completed.

⁶ The number of segments, facilities and miles identified by TRC, discussed here, was provided in the December 2017 MAOP Determination & Validation Plan. They are to be distinguished from the numbers found elsewhere in this Narrative reflecting the current unvalidated segments and facilities and labeled “as of March, 2018.”

⁷ 2016 Agreement, section V.B.1.d.

A. Monetary Penalty

14. In the Amended Agreement, CNGC and Commission Staff agree that \$1,000,000 of the suspended penalties will remain until CNGC completes the MAOP validation work set forth in the Amended Agreement. Once CNGC has completed the documentation of the validation of MAOP for its pipeline segments and facilities operating above 60 psig, and has otherwise complied with the Revised Compliance Program, the suspended penalties will be removed.

15. CNGC and Commission Staff agree that \$500,000 of the suspended penalties should be removed at this time. CNGC completed the third-party audit to determine baseline variance from the standards set forth in American Petroleum Institute (API) recommended Practice 1173, Pipeline Safety Management Systems (PSMS), and CNGC submitted the written report on December 14, 2017. As noted below, CNGC has completed several other tasks set forth in the 2016 Agreement. Commission Staff and CNGC propose removal of \$500,000 suspended penalties associated with the third-party audit, while retaining the \$1,000,000 in suspended penalties associated with the MAOP validation.

B. Revised Compliance Program

16. The Revised Compliance Program (i) updates the steps CNGC will take to document the basis for validation of MAOP for pipeline segments and facilities operating above 60 psig and the prioritization of work, in light of the additional information obtained through the TRC review; (ii) documents the tasks that CNGC has completed; and (iii) updates certain terminology to reflect the conditions imposed by the Commission in Order 03 and as clarified in Order 04 in this docket. The Revised Compliance Program is discussed in more detail below.

C. Status of 2016 Agreement and Order 01

17. With the Commission's final order approving the Amended Agreement, the Amended Agreement will supersede the 2016 Agreement filed in this docket. It will also replace Order 01 in this docket.

VI. DESCRIPTION OF THE REVISED COMPLIANCE PROGRAM

A. Work Completed

18. CNGC has completed several tasks pursuant to the Compliance Program in the 2016 Agreement and is on track to complete other tasks. Specifically,

- CNGC completed MAOP validation on the five segments that had been identified as currently operating at 30% specified minimum yield strength (SMYS) or above that were missing critical information. These five segments were completed by December 31, 2017.⁸
- TRC completed the records review of all remaining pipelines and facilities operating above 60 psig by March 31, 2017.⁹
- CNGC reviewed the information, incorporated information into the risk matrix, and developed and submitted an updated MAOP Determination & Validation Plan to the WUTC on December 29, 2017.¹⁰
- CNGC and Commission Staff met and are filing the Amended Agreement with the Commission by March 31, 2018. The Amended Agreement reflects a completion date by which CNGC will document the basis for validation of MAOP for the additional high pressure (greater than 60 psig) segments identified by TRC.¹¹
- CNGC has prioritized the validation work for the 116 segments as well as for the additional segments identified by TRC according to the risk considerations set forth in No. 2 of the Compliance Program, as further refined based on additional data obtained since the 2016 Agreement.¹²
- Although CNGC and Commission Staff are proposing changes to the schedule of the MAOP validation work to integrate the TRC-identified segments and the 116 segments into one timeline that is prioritized by risk score rather than mileage,

⁸ See Compliance Program, No. 1.b.

⁹ See *id.* No. 1.c.

¹⁰ See *id.* No. 1.d.i.

¹¹ See *id.* No. 1.d.ii.

¹² See *id.* No. 2.

CNGC is on track to document the basis for validation of the MAOP on at least 50 percent of the mileage for the 116 pipeline segments by December 31, 2018, as required by the 2016 Agreement.¹³ The total mileage for the 116 segments is 222 miles. As of March 2018, CNGC has completed 90 miles of the 111 miles required to be validated by the end of 2018, and CNGC is on track to meet or exceed validation of 111 miles by the end of 2018. A list of the notable projects completed to date is provided as Attachment A.

- Jacobs Consultancy completed work associated with determining CNGC's baseline variance from the standards set forth in API 1173. CNGC submitted the report prepared by Jacobs on December 14, 2017.¹⁴

B. Review and Identification of Additional Segments Missing Critical Information

19. CNGC has reviewed the pipeline segments and facilities operating above 60 psig and has identified the segments and facilities that are missing critical information necessary to document the basis for validation of MAOP. Pursuant to the 2016 Agreement and as discussed above, CNGC retained TRC to complete a records review of all remaining pipelines operating above 60 psig and this review was completed by March 31, 2017, as required by the 2016 Agreement. The table below shows the additional pipeline segments and facilities missing critical information necessary to document MAOP validation identified through the TRC review.

¹³ See *id.* No. 1.a.i.

¹⁴ See *id.* No. 7.

TABLE 1: UNVALIDATED PIPELINE SEGMENTS AND FACILITIES AS IDENTIFIED BY TRC¹⁵

REASON FOR UNVALIDATED STATUS	Count	Pipe Length
Missing Pressure Test Records ¹⁶	317	4.2
Current MAOP not consistent with 49 CFR 192.619 ¹⁷	824	13.6
Missing 49 CFR 192.517 Records ¹⁸	227	13.5
Missing Component Information with Pressure Test ¹⁹	1,185	79.7
Facilities ²⁰	336	NA
TOTAL	2,889	111

20. Using the comprehensive information obtained through the TRC records review, CNGC developed and submitted an updated timeline/plan for documenting the basis of MAOP validation, which included the additional segments and facilities identified by TRC. This plan was filed with the Commission on December 29, 2017, in compliance with the 2016 Agreement.

21. Through the TRC records review, eight new pipeline segments were identified as operating at 30% SMYS or above with missing critical information. These eight segments were outlined in the plan filed with the Commission on December 29, 2017.

¹⁵ Does not reflect MAOP validations completed since completion of the TRC records review.

¹⁶ Pipeline segments where no records of a pressure test were found.

¹⁷ Includes (i) pipeline segments where the pressure rating indicated a lower pressure rating than the current MAOP, (ii) pipeline segments where the calculated design pressure is lower than the current MAOP, and (iii) segments where a pressure test is insufficient for the current MAOP.

¹⁸ Pipeline segments where the determined MAOP meets the terms of 49 C.F.R. 192.619, but pressure test record does not include all information required (e.g., responsible employee name, test medium, test duration).

¹⁹ Pipeline segments where the segment design pressure and pressure test information are sufficient to validate the current MAOP, but the segment has a component that could not be verified from the records review.

²⁰ Facilities include regulator stations, odorizer stations, valve settings, meter stations, and high pressure service settings missing information required to validation MAOP such as facility drawings, pressure test records, and records of facility modifications/rebuilds.

22. After CNGC filed the plan, Commission Staff and CNGC met to review the updated information. One concern raised in the discussion was the overlap in risk scores between the original 116 segments and the additional segments identified by TRC. Some of the segments and facilities identified by TRC that are missing critical documentation had higher risk scores than some of the 116 segments.

23. In the course of discussions, Commission Staff and CNGC agreed on three overarching principles regarding the MAOP validation work: (i) rather than continue to use mileage as a benchmark for completion of the work, it is prudent to schedule the work based on risk scoring; (ii) given the overlap in risk scores between the 116 segments and the TRC-identified segments, it is prudent to aggregate these into one group and address them based on overall risk score; and (iii) the newly identified segments operating at or above 30% SMYS and missing critical information to document MAOP validation should be treated as the highest priority.

C. Schedule for Validation of Work as Agreed to by CNGC and Commission Staff

24. Based on these priorities, CNGC and Commission Staff agreed to revise the work schedule set forth in the December 2017 plan to more adequately address risk for the entire population of segments and facilities missing critical documentation to validate

MAOP. The parties agreed to the following schedule:

- i. CNGC will document the basis for validation of the MAOP on 100% of the segments and facilities having a risk score of greater than or equal to 75, as set forth in the MAOP Determination & Validation Plan dated March 2018, by December 31, 2023.
- ii. CNGC will document the basis for validation of the MAOP on 100% of the segments and facilities having a risk score of less than 75, as set forth in the MAOP Determination & Validation Plan dated March 2018, by December 31, 2028.

- iii. CNGC has identified eight additional segments currently operating at 30% SMYS or above that are missing critical information needed to document the basis for validation of MAOP. CNGC will complete validation of the eight additional segments by December 31, 2018, unless the percent SMYS of a pipeline segment is reduced below 30% through testing or other approved validation methods, in which case CNGC will schedule the segment for validation based on the total risk score of the segment.

D. Explanation of Prioritization of Work

1. Risk Factors and Scoring Methodology

25. In determining a risk score for each pipeline segment and facility, and scheduling the work, CNGC considers the following factors:

- Percent SMYS of pipe and fittings based on most stringent criteria for missing pipe characteristics. Percent SMYS is an important risk factor as it is a specific value, based on pipe characteristics, used to determine how close to the material's specific minimum yield strength the material is before it weakens and deforms permanently. The lower the percent SMYS, the greater confidence that a pipe will function safely.
- Available pressure test records. Risk factor associated with missing pressure testing records to validate MAOP. Pressure testing records are important in validating the integrity of pipeline segment or facility after installation to assure safe operation and establish MAOP.
- Number of High Consequence Areas (HCAs) on pipeline segment. Risk factor for pipeline segments and facilities located close to areas with high occupancy.
- Segment class location. Risk factor for population density located near pipeline segment or facility.
- Low frequency ERW and unknown seam types when percent SMYS > 25%. Risk factor attributed to historical issues with pipeline segments and facilities with low frequency ERW and unknown seam types operating at a percent SMYS greater than 25%.
- Pipe vintage with special consideration for pre-code pipe with unknown characteristics. Risk factors associated with age of pipe segment or facility. Pre-code pipe segments and facilities tend to have increased integrity risks associated with corrosion, construction, and material defects, etc.
- Pipe material, installation characteristics, or maintenance records that indicate increased risk. Risk factors attributed to specific material, installation, or maintenance factors.

- Length of segment. Risk factor based on length of pipeline segment. Length of segment increases exposure to public and risk.

26. For each pipeline segment and facility, CNGC assigned a risk score based on each component of the risk matrix, and the individual risk scores for each component were added together to produce an overall total risk score for each pipeline segment and facility. In general, pre-code pipeline segments and facilities, operating at a high percent SMYS and without pressure test records are areas with the highest overall total risk. Risk is further influenced by class location, number of HCAs, length of segment, unknown pipe and material information, and installation and maintenance records. The specific components, factors, and weighting scores used for the risk priority matrix are provided in Attachment B to this Narrative.

2. Comparison of 116 Segments and TRC Segments/Facilities

27. As previously discussed, there is an overlap in risk scores between the 116 segments identified in the Compliance Program, and the additional segments and facilities identified by TRC. As shown in Table 2, below, the total risk score for the 116 segments ranged from a high score of 200.41 to a low score of 45.37. The total risk score for the TRC-identified segments ranged from a high score of 159.41 to a low score of 10.90, and for facilities ranged from a high score of 151.32 to a low score of 22.80.

TABLE 2. SCORE RANGE OF SEGMENTS BY SOURCE AS OF MARCH, 2018

Source of Segments & Facilities	High Score	Low Score	Average Score
116 segments	200.41	45.37	100.41
TRC-identified segments	159.41	10.90	41.81
TRC-identified facilities	151.32	22.80	62.45

28. For the 2,547 pipeline segments and 269 facilities identified by TRC that have not been validated as of March 2018, 771 pipeline segments and 218 facilities have a

risk score greater than or equal to the lowest total risk score of the original 116 segments (45.37); the average total risk score for these 771 pipeline segments is 60.01 and for the 218 facilities is 68.42. Given the overlapping risk scores, it is appropriate to consolidate the two populations and schedule the work based on overall risk factors.

3. Determination of Two Risk Categories

29. CNGC comprehensively reviewed risk scores of pipeline segments and facilities—for the initial 116 segments as well as the segments and facilities identified by TRC—to determine how the risk scores influence overall prioritization and scheduling of the work required to validate MAOP. Based on this comprehensive review, CNGC determined a risk score greater than or equal to 75 appears to represent a breakpoint for a pipeline segment or facility to be considered higher to moderate risk. A risk score of 75 and above encompasses all pipeline segments and facilities over 20% SMYS and addresses most of the pre-code pipeline segments and facilities operating over 10% SMYS. After meeting to discuss these findings, Commission Staff and CNGC agreed that a total risk score of 75 creates a logical demarcation line between (i) higher to moderate risk and (ii) low risk for determining MAOP prioritization.

30. The table below shows all remaining unvalidated segments and facilities operating above 60 psig and missing critical information needed to validate MAOP, as of March 2018. The table lists segment/facility count and mileage. It lists the remaining segments and facilities based on (i) the source of identification (original 116 segments versus new segments/facilities identified by TRC); and (ii) total risk scores. The yellow shaded lines are segments and facilities with a higher to moderate risk score; the blue shaded lines are the lower risk segments and facilities.

TABLE 3. UNVALIDATED SEGMENT/FACILITY COUNT BY TOTAL RISK SCORE AS OF MARCH, 2018

	Segment/Facility Count	Mileage (miles)
116 Segments, Total Risk Score greater than or equal to 75*	62	125.30
New Pipeline Segments, Total Risk Score greater than or equal to 75	111	26.21
Facilities, Total Risk Score greater than or equal to 75	65	---
116 Segments, Total Risk Score less than 75*	22	6.45
New Pipeline Segments, Total Risk Score less than 75	2,436	67.53
Facilities, Total Risk Score less than 75	204	---
Total	2,900	225.49

* Remaining 116 Segment (PG-150120 Settlement Agreement) count and mileage.

31. Table 4, below, shows the aggregate number of segments and facilities, and the associated mileage, that fall into the two risk categories. The majority of the segments and facilities have a risk score below 75, but the higher to moderate risk segments encompass more miles than the lower risk segments.

TABLE 4. UNVALIDATED SEGMENTS/FACILITIES BY TOTAL RISK SCORE AS OF MARCH, 2018

TOTAL RISK SCORE GREATER THAN OR EQUAL TO 75	TOTAL RISK SCORE LESS THAN 75
173 PIPELINE SEGMENTS – 151.51 MILES	2,458 PIPELINE SEGMENTS – 73.98 MILES
65 FACILITIES	204 FACILITIES
8.21% *	91.79%*

* Percentage of the total segments and facilities requiring validation shown in Table 3.

E. Explanation of Work Schedule

32. To establish the proposed schedule for completing required work to validate MAOP on the pipeline segments and facilities missing critical information, CNGC reviewed historical project information for completing similar-type work and conferred with CNGC construction personnel and contractors. From this information CNGC established estimated average production rates for each of the required actions to validate MAOP. The total number of construction days was then estimated.

33. The estimated construction time needed to complete the work currently identified is approximately 7,923 construction days—3,339 days are estimated to address pipeline segments and facilities with a total risk score greater than or equal to 75, and 4,584 days are estimated for pipeline segments and facilities with a total risk score less than 75. The proposed work schedule prioritizes work using a risk based approach, which focuses on higher to moderate risk pipe segments and facilities first, and postpones work on the lower risk segments and facilities until higher risk segments are validated. A breakdown of construction days by task is shown below:

Table 5. Construction Tasks and Estimated Time to Complete MAOP Validation

Construction Task	Segment Count	Pipe Length (Feet)	Time (Days)	Production Rate	Construction Days
DIMP/TIMP, Missing 192.517	228	72,186.91	0	---	0
In-Situ Test	5	7,711.79	0	---	0
Expose/Verify, DIMP/TIMP	1178	328,683.37	1	---	1,178
Expose/Verify/Replace	6	15,155.21	1	---	6
Retire					
Branch	6	382.74	1	---	6
Main	4	10,200.00	5	---	20
Downrate					
Main	3	2,534.00	5	---	15
Addressed w/ 116 Segment	4	184.50	0	---	0
Pressure Test					
Main	16	475,415.00	6	10,000' /week	381
Branch	5	325.00	5	---	25
Addressed w/ 116 Segment	184	8,985.37	0	---	0
Pressure Test/Replace					
Branch (Pressure Test/Replace)					
3/4" - 1-1/4"	707	45,286.60	1	---	707
2"	139	9,927.97	2	---	278
3" - 4"	62	6,035.71	3	---	186
6" - 8"	30	3,123.71	4	---	120
10" - 12"	5	304.51	5	---	25
16"	1	3.01	6	---	6
UNKV	2	54.01	1	---	2
Main (Replace)					
2" - 4"	24	86,384.58	---	100' /day	864
6"	4	2,959.00	---	90' /day	33
8" - 10"	15	95,205.73	---	85' /day	1,120
12"	3	19,549.00	---	75' /day	261
Facilities (Pressure Test/Replace)	269	---	10	---	2,690
Grand Total	2,900	1,190,597.72			7,923

34. The use of multiple crews decreases the timeline for completion of the work. In order to achieve the timeline in the Amended Agreement, CNGC is assuming the use of

2.5 to 3.5 crews on a full time basis.²¹ CNGC believes this schedule is attainable based on the number of segments and facilities to be validated, the estimated construction days and the resources available to complete work. This schedule is aggressive, but is also feasible and reasonable. It promotes public safety while balancing cost and work force availability.

VII. JOINT STATEMENT OF THE PARTIES

35. The parties agree that the Amended Agreement advances the public interest. Within the meaning of WAC 480-07-750(1), the Amended Agreement is lawful, contains terms that are supported by an appropriate record, and achieves a result that is consistent with the public interest in light of all the information available to the Commission. The Commission should approve the Amended Agreement without conditions.

36. The Amended Agreement carries out one of the terms of the 2016 Agreement, which was approved by the Commission with conditions. The Amended Agreement incorporates a time frame for completion of validation of MAOP for the additional segments and facilities identified by TRC. Additionally, the Amended Agreement authorizes a risk-scoring approach to the scheduling of work, rather than the mileage approach that had been used in the 2016 Agreement. This change is in the public interest and enhances public safety because it allows the higher to moderate risk segments and facilities to be addressed first, followed by the lower risk segments.

²¹ Dividing the estimated construction days by 250 working days in a year, it would take 13.36 years for one crew to complete validation of the higher to moderate risk segments and an additional 18.336 years for one crew to complete validation of the lower risk segments and facilities, assuming 100% production for one crew working every working day of the year.

37. The timeline for completion of the work is aggressive, but feasible. It will require CNGC to devote multiple work crews to the MAOP validation work on a full time basis. The schedule appropriately balances public safety, cost, and work force availability.

38. Removal of \$500,000 of the suspended penalties is appropriate given the compliance CNGC has demonstrated. Specifically, \$500,000 of the suspended penalties was intended by Commission Staff and CNGC to be tied to completion of the third-party audit addressing baseline compliance with API Recommended Standard 1173. CNGC completed that audit and filed a report as required by December 31, 2017. Additionally, CNGC has completed several other tasks set forth in the 2016 Agreement. For this reason, Commission Staff and CNGC believe it is in the public interest to remove the \$500,000 in suspended penalties associated with the API Recommended Standard 1173 audit. The remaining \$1,000,000 in suspended penalties will remain until the MAOP validation is complete.

39. The parties agree that CNGC has worked diligently to comply with the terms of the 2016 Agreement and has completed several tasks set forth in that agreement. Among other things, CNGC has completed the third-party audit to measure baseline compliance with API Recommended Practice 1173. Additionally, CNGC has completed the TRC records review and analyzed the additional segments and facilities that are missing critical information to document the MAOP validation, which the TRC review details. Through the comprehensive TRC records review, CNGC now has information on all the pipeline segments and facilities operating above 60 psig that lack some critical information to document the MAOP validation. CNGC has collaborated with Commission Staff and determined a reasonable and feasible timeline for completing MAOP validation, which is

based on total risk score rather than mileage benchmarks. The interim steps CNGC has taken will provide for the continued safety of CNGC's system while the Revised Compliance Program is carried out. These interim steps include reducing operating pressure, conducting additional leak surveys, accelerating action on any leaks or repairs associated with the identified segments, and incorporating specific segments into CNGC's Transmission Integrity Management Program (TIMP).

40. The Revised Compliance Program set forth in the Amended Agreement is reasonable. It provides for public safety through an aggressive MAOP validation timeline that addresses the highest risk pipeline segments and facilities first, followed by validation of the MAOP of lower risk segments and facilities.

- The eight segments identified by TRC that are currently operating at 30% SMYS or above will be addressed by the end of 2018.
- The higher to moderate risk segments and facilities will be completed by 2023. This risk category covers all pipelines segments and facilities over 20% SMYS and addresses most of the pre-code pipeline segments and facilities operating over 10% SMYS.
- The lower risk segments and facilities will be completed by 2028.

The Amended Agreement provides for completion of the MAOP validation in a time period that is less than the 15-year time period PHMSA proposed in its Notice of Proposed Rule Making, addressing transmission pipelines.²²

41. With respect to the 116 segments addressed in the 2016 Agreement, although CNGC and Commission Staff have proposed revised time frames that prioritize MAOP

²² See Pipeline Hazardous Materials Safety Administration, Notice of Proposed Rulemaking, 81 Fed. Reg. 20721, 20833-34, §192.624(b) (April 8, 2016) (proposing to require MAOP validation for specified segments of transmission lines, with 50% of mileage to be completed 8 years after effective date of final rules and 100% of mileage to be completed 15 years after effective date of final rules).

validation based on risk rather than mileage, it is important to note that CNGC is currently on track to complete 50% of the mileage by December 31, 2018. The total mileage for the 116 segments is 222 miles. As of March 2018, CNGC had completed 90 miles and is on track to meet or exceed validation of the 111 miles required to be validated by the end of 2018 under the terms of the 2016 Agreement. Additionally, of the 116 segments (222 miles) that were to be validated by 2023 under the terms of the 2016 Agreement, all but 22 of these segments (6.45 miles) will be validated by 2023 under the terms of the Amended Agreement. The remaining 22 segments have a risk score below 75 and thus will be completed by 2028. The Amended Agreement also requires CNGC to complete an additional 176 segments and facilities (26.21 miles) identified by TRC by the 2023 deadline, with the remainder of the lower risk score segments and facilities to be completed by 2028. While the schedule is aggressive, it is feasible, and CNGC believes it can provide adequate staffing to complete the work by the 2023 and 2028 time frames.

42. CNGC is committing several million dollars through 2028 to complete the work set forth in the Amended Agreement, some of which goes beyond what is required to remedy the specific violations alleged. It continues to be an important term of the Amended Agreement that CNGC be allowed to seek recovery of the costs for the work undertaken.

43. The steps Cascade is taking as part of the Revised Compliance Program are best practices that will enhance the long-term integrity of its system. Many pipeline systems solely rely on historical operating pressures and decades-old records for documenting the basis of validation of MAOP. The comprehensive Revised Compliance Program CNGC has agreed to in the Amended Agreement, involving in-situ testing, pressure testing, replacing lines, verifying line fittings, etc., will provide enhanced validation of safe operating

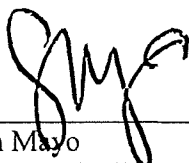
pressures on Cascade's pipeline system as compared to the decades-old records on which other pipeline systems rely.

VIII. CONCLUSION

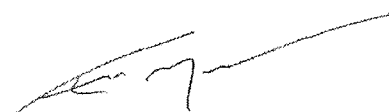
44. The parties agree that the Amended Agreement is lawful, that its terms are supported by an appropriate record, and that the result is consistent with the public interest in light of all the information available to the commission. Consistent with WAC 480-07-750, the parties respectfully request that the Commission approve the Amended Agreement without conditions.

For Commission Staff:

For Cascade Natural Gas Corp.:



Sean Mayo
Director, Pipeline Safety
Washington Utilities and Transportation
Commission



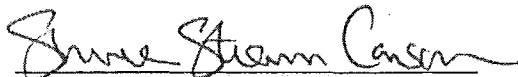
Eric Martuscelli
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Dated: March 29, 2018

Dated: March 29, 2018

ATTACHMENT A

MAOP Validation Completed as of March 2018 Original 116 Segments

- 2" Burbank H.P. Line (12301, 3,520')
- 4" South Moses Lake H.P. Line (14455, 2,927')
- Longview-Kelso H.P. Distribution Line (82C8335-2, 521')
- Longview-Kelso H.P. Distribution Line (82C8335-3, 152')
- 4" Dike Road H.P. Line (82C8335, 6,463')
- 16" Fredonia Transmission Line (30636 (1) (Transition Fittings and Elbows), 64,426')
- 16" March Point Transmission Line (40000 (Transition Fittings and Elbows), 43,344')
- 12" South Longview H.P. Line (43600 (1) (Transition Fittings), 18,373')
- 16" North Whatcom Transmission Line (18794, 143,907')
- 8" & 12" Bremerton Transmission Line (BremertonL2-1, 2,843')
- 8" Central Whatcom Transmission Line (40855 (Transition fittings), 10,579')
- 8" Lake Terrell Rd Transmission Line (18734-1, 10,314')
- 16" Squalicum Transmission Segment (41508, 2,600')
- 4" Grandview H.P. Line (Fish-L2-1, 4,736')
- 4" McCleary H.P. Line (79C6323, 225')
- 3" Burlington H.P. Line (211220, 5,349')
- 6" Wenatchee H.P. Line (2912 fish, 1,066')
- Longview-Kelso H.P. Distribution Line (Pre-CNGC-L1-1, 4,066')
- 8" Kitsap Line (20C6308-3, 35,770')
- 12" Kitsap H.P. Line (44000, 34,782')
- 4" North Lynden H.P. Line (25773, 8,161')
- 4" Plymouth H.P. Line (28141, D0069144, 28330, 4,112')
- 6" North Oak Harbor H.P. Line (17206, 19,048')
- 6" & 8" Moses Lake H.P. Line (60390, 2,041')
- 8" Yakima H.P. Line (40C4357, 4,891')
- Longview-Kelso H.P. Distribution Line (Pre-CNGC-L1-2, 4,964')
- Pasco H.P. Distribution System (KennL4-1, 10,125')
- 4" Mount Vernon H.P. Line (MTVL4-1, 23,760')
- Bellingham H.P. Distribution System (13150, 2,025')

ATTACHMENT B

Risk Priority Matrix

Component	Factor	Weighting Score	Comments
Percent SMYS	SMYS >= 40%	% SMYS + 30	Score for percent SMYS equals the weighting score added to the % SMYS of pipeline segment or facility.
	40% > % SMYS >= 30%	% SMYS + 20	
	30% > % SMYS >= 20%	% SMYS + 15	
	20% > % SMYS >= 10%	% SMYS + 10	
	10% > % SMYS >= 5%	% SMYS + 5	
	5% > % SMYS >= 0%	% SMYS + 0	
High Consequence Areas (HCA)	0	0	Number of HCA's
	> 2	20	
	2	15	
	1	10	
Class Location	Class 1	1	Class location of pipeline segment or facility.
	Class 2	5	
	Class 3	8	
	Class 4	10	
Pressure Test Records	VALID	0	
	UNVALID, Unknown Pressure Test, % SMYS >= 30%	30	
	UNVALID, Unknown Pressure Test, 30% > % SMYS >= 20%	25	
	UNVALID, Unknown Pressure Test, 20% > % SMYS >= 5%	20	
	UNVALID, Unknown Pressure Test, % SMYS < 5%	10	
	UNVALID, Insufficient Pressure Test, % SMYS > 5%	5	
	UNVALID, Insufficient Pressure Test, % SMYS <= 5%	1	
Length of Segment	> 50,000'	25	
	50,000' to 30,000'	20	
	30,000' to 10,000'	15	
	10,000' to 5,000'	10	
	5,000' to 1,000'	7.5	
	1,000' to 500'	5	
	500' to 100'	1	
	< 100'	0	

Component	Factor	Weighting Score	Comments
Post Code	Post-Code	0	
	Pre-Code, % SMYS >= 30%	10	
	Pre-Code, 20% < SMYS < 30%	5	
	Pre-Code, 10% < SMYS < 20%	2.5	
	Pre-Code, % SMYS < 10%	1	
Vintage/Age	Age	Age / 2	Score for Vintage/Age equals the Age of pipeline segment or facility divided by the weighting score.
Leaks	Number of Leaks	(# Leaks / Length of Segment) x 50	Score for Leaks equals the number of leaks divided by the length of segment multiplied by the weighting score.
Sallow Cover	Yes	10	
	No	0	
Installation of Cathodic Protection (CP)	Years Without CP > 0, Years Without CP/Score	2	Score for Installation of CP equals the years without CP divided by the weighting score, if Years Without CP is greater than 0.
Missing Grade	Assumed	2	
	Known	0	
Missing Wall Thickness	Assumed	2	
	Known	0	
Missing Seam Type	Assumed	2	
	Known	0	
Seam and >=25% SMYS	Unknown Seam Type; % SMYS >= 25%	10	
	Known Seam Type	0	