CASCADE NATURAL GAS CORPORATION
A Subsidiary of MDU Resources Group, Inc.

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Date: May 20, 2024

Subject: WAC 480-93-020 Burlington HP Replacement Proximity Request

To: Jeff Killip, Executive Director and Secretary, Utilities & Transportation Commission

Sender: Colby Lundstrom, Manager of Compliance and Operations Programs, Cascade Natural Gas Co.
Mailing Address: 8113 W Grandridge Blvd, Kennewick, WA 99336-7166
Phone Number: (509) 734-4587
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Identification of Proceeding: N/A

Identification of Documents: CNGC – Burlington HP Replacement Proximity Request

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May 20, 2024

Jeff Killip
Executive Director/Secretary
Utilities & Transportation Commission
PO Box 47250
Olympia, WA 98504-7250

Subject: WAC 480-93-020 3" Burlington HP Replacement Proximity Request

Dear Mr. Killip:

Pursuant to the requirements of WAC 480-93-020 Proximity Considerations, Cascade Natural Gas Corporation (CNGC) requests to operate the proposed pipeline at a pressure of 500 psig within 100 feet of existing buildings or those that are under construction. CNGC is performing this work to satisfy Settlement Agreement Docket PG-150120, maintain core customer needs, and have the ability to supply necessary capacities for future growth in Burlington, WA.

Proposed Scope of Work:
The proposed pipeline consists of installing approximately 1,041-feet of new 4-inch steel main. This will connect to the existing 16" Fredonia Transmission pipeline that operates at an MAOP of 500 psig and the existing regulator station 017-R-179 which feeds the 4" Burlington HP Line at an MAOP of 249 psig. The complete route of this line is depicted on the attached aerial maps located in Appendix A. This Proximity Request is for approval to operate the new pipeline and existing regulator station at an MAOP of 500 psig.

At the proposed MAOP of 500 psig the stress level of the new pipe and fittings will be a maximum of 9.13% of the specified minimum yield strength and the stress level of the existing regulator station will be 13.56% of the specified minimum yield strength. The 3" Burlington HP replacement and 017-R-179 inlet will be classified as high-pressure distribution, not Transmission. One-hundred percent (100%) NDT will be performed on all newly installed pipe.

Specifications of the new 4-inch pipeline are as follows:

- All components (valves, line stoppers, etc.) will be ANSI Class 300 with a maximum working pressure rating of 720 psig.
- All pipe and associated fittings will consist of API 5L specification and of an X52 grade.

Proximity & Alternatives:
3" Burlington HP replacement pipeline will be within 100 feet of 2 structures as shown in Appendix A. Route analysis and protective measures were taken into consideration when deciding the location of the new pipeline and its proximity to the public and associated facilities.

Alternative routes were explored as detailed in Appendix B. These routes were not chosen because of lack of existing easements, difficulty in obtaining new easements, restrictions in place on crossing BNSF Railway tracks, and wetland disturbances that construction would have created.

Closing:
CNGC respectfully requests your approval to operate the new Burlington high-pressure pipeline with an MAOP of 500 psig. Construction for the 3" Burlington HP Replacement project is scheduled to begin in July of 2024 upon approval of this request and other permitting with the City of Burlington, Skagit County and WSDOT. If you have any questions or require additional information, feel free to contact me at (509) 734-4587 or via email at Colby.Lundstrom@mdu.com.

Sincerely,

CASCADE NATURAL GAS

Colby Lundstrom 5/20/2024

Colby Lundstrom
Manager of Compliance Ops. Programs

CC: Pat Darras
Mike Schoepp
Ryan Privratsky

Enclosures

Appendix A - Buildings within 100-foot proximity to the pipeline and facilities.
Appendix B - Route Alternatives

Proximity Buildings

Bldg. #	Distance to HP Line (feet)	Bldg. Description
1	95	Residence
2	95	Shed

The Hoop Stress and %SMYS for steel pipe is determined in accordance with the following formulas:

$$\sigma_{hoop} = \frac{P \times D}{2 \times t} \qquad \sigma_{hoop} / S = \%SMYS$$

P=Design pressure, psig.
S=Yield strength, psig determined in accordance with §192.107.
D=Outside pipe diameter, inches.
t=Nominal wall thickness of pipe, inches.

Design pressure of new pipeline at 500 MAOP:

4" Hoop Stress = $\frac{500 \times 4.500}{2 \times 0.237}$ = 4746.84 psig %SMYS = $\frac{4746.84}{52000}$ = 9.13 %

Design pressure of existing regulator station inlet at 500 MAOP:

4" Hoop Stress = $\frac{500 \times 4.500}{2 \times 0.237}$ = 4746.84 psig %SMYS = $\frac{4746.84}{35000}$ = 13.56 %

Figure 3: SMYS calculation