NORGASCO, INC. 4341 B Street Suite 306 ♦ Anchorage, Alaska 99503 ♦ (907)562-5520 ♦ Fax 907)562-5530

March 16, 2015

Mr. Chris Hoidal
Director, Western Region
Pipeline and Hazardous Materials Safety Administration
12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

Regarding: CPF 5-2015-0002M and CPF 5-2015-0001W

Dear Mr. Hoidal,

On February 27th, 2015, Norgasco received Office of Pipeline Safety's response letter dated February 24th, for the above referenced inspection.

Please find enclosed updated Norgasco O&M procedures which address:

- Items 1 through 7 of apparent inadequacies mentioned in the Notice of Amendment CPF 5-2015-0002M.
- Items 1 through 3 warnings related to probable violations mentioned in Warning Letter CPF 5-2015-0001W.
- Other changes as may have been suggested during the PHMSA inspection interview.

Item 1/7 - CPF 5-2015-0002M:

192.273 Procedural manual for operations, maintenance, and emergencies.
192.273(b) General. Each joint must be made in accordance with written procedures that have been proven by test or experience to produce strong gas tight joints.

Norgasco has updated the O&M manual to contain written procedures which qualify joint testing via appropriate industry standards that meet or exceed DOT 192.283. See excerpt below:

Norgasco O&M – Section G, Mains and Services (near page 75)

1. General

Mains and service lines will be installed using HDPE 3408 SDR 11 yellow stripe pipe in Norgasco's distribution system.

All butt fusion joints and electro-fusion joints will be made using vendor/industry standard procedures that meet or exceed DOT requirements per 192.283(a). Copies of vendor data that supports successful pipe and fitting tests are collected and checked to make sure that the appropriate tests have been performed for both HDPE butt fusion and HDPE electro-fusion processes.

Currently, Norgasco uses Performance Pipe's YELLOWSTRIPE 8300 PE Piping materials which have been found by appropriate testing to meet all DOT 192.293(a) requirements using ASTM D2513 Standard Specification for Thermoplastic Gas Pipe, Tubing, and Fittings. Performance Pipe publishes a booklet entitled "Heat Joining Procedures and Qualification Guide" which states that heat joining procedures are in compliance with DOT 192.273(b). Performance Pipe also publishes "Performance Pipe Fusion Qualification Test Summary" which shows that samples of 8300 HDPE 3408 SDR 11 pipe samples were tested and passed under ASTM D1599 – Quick Burst Testing and ASTM D638 – Tensile Testing.

Norgasco also uses Central Plastics Electrofusion Fittings (EF), primarily EF Couplings and EF High Volume Tapping Tees. All fittings are "in-house" tested at the factory to meet ASTM F1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing (see attachment 3, CF Central Plastics manual, Part# 10014091, September 2014, page 2), including tensile strength tests.

Item 2/7 - CPF 5-2015-0002M:

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and Subpart M of this part.

Norgasco has amended the O&M Manual to establish written procedures for testing or calculating the capacity of pressure relief devices at the required interval (192.743(a) of Subpart M). Pressure relief devices at pressure limiting stations or pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected (192.743(a). The Norgasco O&M Manual is amended as follows:

Norgasco O&M – Chapter 4, Section D & E, Fuel Gas Conditioning (near page 96)

Every year, not to exceed fifteen months, Norgasco will review, update, and verify that the pressure relieving devices utilized in Skid 1 and Skid 2 are capable of relieving excess gas pressure should a regulator fail in a fully opened position. The procedure to accomplish this task is as follows:

1. *Determine, by calculation or vendor supplied data, the full flow capacity of each regulator, or regulators, in service that may fail in an open position. To perform the computations, the following data and information is required:*
    a. *Upstream pressure in psig– normal flowing condition pressure*
    b. *Downstream pressure in psig – use pressure at which the relief is activated*
    c. *Upstream temperature in dF – normal flowing condition temperature or 60 dF if not known.*
    d. *Specific gravity of the natural gas – use 0.73 (rel gas gravity to air)*
    e. *Lookup vendor supplied C1 coefficient data for each valve (see Fisher manuals)*
    f. *Lookup and utilize valve sizing equations furnished in Fisher manuals*

2. *Determine, by calculation, vendor table lookup, or vendor computation, the flow capacity of the relief valves downstream of a corresponding regulator. If the vendor has supplied the relief valve capacity with the last work order, use this value; otherwise compute the relief valve capacity using vendor supplied equations or software. The following data and information is required:*
    a. *Upstream pressure in psig– normal flowing condition at set pressure*
    b. *Specify overpressure percentage – use 10% over pressure*
    c. *Upstream temperature in dF – normal flowing condition*
    d. *Specific gravity of the natural gas – use 0.73 (rel gas gravity to air)*
    e. *Relief valve configuration – size, orifice, etc*

3. *For each regulator in service verify that the downstream relief valve capacity is greater than the full open flow capacity of the corresponding upstream regulator or regulators.*

A sample of relief valve capacity verification for regulators at Norgasco's Skid 1 and Skid 2 is included in the following tabular pages:

Norgasco, Inc. - Regulator and Relief Valve Review

(date: 11-8-14)

Skid 1 - Regulator - Relief Review Notes

Fisher Valve and Regulator (from Fisher 310A listed data and Fisher Catalog Data for E Body valves)

Q	gas flow rate, SCFH
P1	inlet absolute pressure, psia
Cg	regulator 100% open gas sizing flow coefficient from Table 4, 5, and 6
G	gas specific gravity
T	temperature of gas, R
C1	Flow coefficient
DeltaP	pressure drop across regulator, psi

Fisher Valves	3" Fisher 310A Reg		2" Fisher ED Valve	
P1 guage	550	psig	550	psig
P1 absol	564.7	psia	564.7	psia
				2" ED Whisper Trim
Cg	1810	3"-30%	1860	I
G	0.73	[rel air]	0.73	[rel air]
T	520	deg R	520	deg R
C1	28	[dim]	38.8	[dim]
P2 gauge	480	psig	480	psig
P2 absol	494.7	psia	494.7	psia
DeltaP	70	psi	70	psi
Q	815,349	SCFH	633,273	SCFH
Q	19.6	MMSCFD	15.2	MMSCFD

Pentair/Crosby Relief Valve

Orifice Size	J	1.287 sq in	
Set pressure	715	psig	
			From Pentair Relief Valve
Rated capacity	18,456	SCFM	data
Rated capacity	1,107,360	SCFH	
Rated capacity	26.6	MMSCFD	

Skid 2 - Regulator - Relief Review Notes

Fisher Valves	3" Fisher 310A Reg		4" Fisher ED - 30% travel limited	
P1 guage	450	psig	450	psig
P1	464.7	psia	464.7	psia
				4" ED Whisper Trim
Cg	1810	3"-30%	1300	I
G	0.73	[rel air]	0.73	[rel air]
T	520	deg R	520	deg R
C1	28	[dim]	24.8	[dim]
P2 gauge	100	psig	100	psig
P2 absol	114.7	psia	114.7	psia
DeltaP	350	psi	350	psi
Q	984,441	SCFH	707,057	SCFH
Q	23.6	MMSCFD	17.0	MMSCFD

Consolidated Relief Valve			
Orifice	P	7.417 sq in	
Set pressure	100	psig	
Rated capacity	18,230	SCFM	From Dresser Consolidated Relief Valve Dat
Rated capacity	1,093,800	SCFH	
Rated capacity	26.3	MMSCFD	

Item 3/7 - CPF 5-2015-0002M :

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(2) Controlling corrosion in accordance with the operation and maintenance requirements of Subpart I of this part.

Norgasco has amended the company O&M Manual to establish written procedures which demonstrates a corrosive environment does not exist in accordance with 192.455(b), thereby not requiring a protective coating meeting the requirements of 192.455(a)(1) of Subpart I.

The Norgasco O&M Manual is amended as follows:

Norgasco O&M – Chapter 4, Section G, Distribution System Description and Operation (near page 99). The excerpt below is added near the section describing the distribution pipeline system overview and before the specific pipeline sections (or areas) are described.

Initial design and implementation of the Norgasco pipeline system using L-80 pipe utilized a determination from a qualified corrosion engineering specialist that the buried portion of the pipeline would operate in a frozen permafrost environment for the majority of the year, and only experience unfrozen conditions during a few brief summer days, primarily at the soil to air interface where the pipeline transitions from below ground to above ground. Further, the corrosion engineering specialist mentioned that close interval pipe to soil potential measurements might only yield useable information during a few summer time days of the year. Also, soil resistivity measurements would be inconclusive in areas where the ground is frozen or partially frozen.

In order to monitor and reconfirm the expected long term pipeline operating conditions, Norgasco annually performs a half cell potential survey of the pipeline system during the time of year (a few days of the summer, usually in late August or early September) where the tundra and gravel fill has thawed the most it will thaw during the year. These half cell potentials are then compared to a half cell standard value to look for possible areas of corrosion activity. Any anomalous values are investigated by exposing the pipe to look for visible signs of external corrosion and an exposed line report is completed. To date, no half cell potential data has suggested corrosion activity using this survey method.

In addition, a third party corrosion engineering firm is contracted to survey the pipeline system using close interval half cell soil potential survey methods and to collect soil resistivity information. Any anomalous information is investigated by digging up the area of interest and looking for visible signs of external corrosion. An exposed line report is completed for each investigation. To date, very little corrosion has been observed in these areas. Pitting on the pipe surface due to corrosion is difficult to differentiate from other imperfections in the pipe surface (e.g. tool marks and jaw marks that occurred during pipeline assembly and are on the order of 0.015 to 0.020 inches in

depth, well under the 0.062 inch corrosion allowance. After twenty five years of continuous service, exposed line reports collected to date show no surface marks, tool marks, imperfections, or pits greater than 0.030 inches, or just under half the available corrosion allowance).

In the event that corrosion damage to the pipeline is observed to be greater than the specified corrosion allowance or affects the pipeline integrity adversely, the section of the affected pipe will be removed and replaced.

Item 4/7 - CPF 5-2015-0002M:

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(2) Controlling corrosion in accordance with the operation and maintenance requirements of Subpart I of this part.

Norgasco has amended the company O&M Manual to establish written procedures which demonstrates, monitors, and verifies a corrosive environment does not exist in accordance with 192.455(b), therefore not requiring a cathodic protection system meeting the requirements of 192.455(a)(2) of Subpart I.

See section **CPF 5-2015-0002M – Item 3/7** above for the amended O&M procedure to monitor and verify that a non-corrosive environment exists.

Item 5/7 - CPF 5-2015-0002M :

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.

Norgasco has amended the company O&M Manual to establish written procedures for reporting incidents of "Unintentional estimated gas loss of three million cubic feet or more" in leaks, which must be reported to the National Response Center (NRC) as described in 191.3(1)(iii).

The Norgasco O&M Manual is amended as follows:

Norgasco O&M – Chapter 5, Section H, Emergency Response Procedures – Telephonic Reports to the National Response Center (NRC) (near page 121). The excerpt below is modified to include the 'release of more than three million cubic feet of gas' to an existing list of reportable items.

H. Telephonic Reports to National Response Center (NRC)

Gas leaks that are not intended by NORGASCO and require immediate or scheduled repair by persons engaged in the transportation of gas must be reported to the office of pipeline safety by the person in charge or whomever he designates, provided that the leak or failure meets one of the DOT requirements listed below:

1. ***Caused a death or a person injured requiring hospitalization.***
2. ***Required the taking of any segment of high pressure distribution pipeline out of service unless part of a planned or routine operation.***
3. ***Resulted in gas igniting unless part of a planned or routine operation.***
4. ***Caused total damage in excess of $50,000 (Total of operator's damage and damage to others.)***
5. ***Any release of gas in excess of 3 MMSCF.***
6. ***Could have resulted in or was a significant incident to the operation. This being in the judgment of the Operations Manager even though it does not meet the criteria of the above requirements.***

Item 6/7 - CPF 5-2015-0002M :

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.

Norgasco has amended the company O&M Manual to establish written procedures for reporting change events to the National Registry of Pipeline and LNG Operators per 191.22(c) of Part 191. An operator is required to report the information to the Registry if certain reporting criteria are reached.

The Norgasco O&M Manual is amended as follows:

Norgasco O&M – Chapter 4, Section J, Safety Related Conditions (near page 103). The excerpt below is added at the end in subsection 3 to describe 'other' reportable changes. Also the title of the Section J will be changed from '*Safety Related Conditions'* to '*Safety Related Reportable Conditions and Other Reportable Change Events*'.

4. *Other Reportable Changes required by DOT Part 191. Reportable to the National Registry of Pipeline and LNG Operators per 191.22(c). A pipeline operator is required to report:*
    a. *An operator must notify PHMSA through the Registry of any of the following events not later than 60 days before the event occurs:*
        i. *Construction of 10 or more miles of a new pipeline*
        ii. *Construction of a new LNG plant or LNG facility*
        iii. *Construction or planned rehabilitation, replacement, modification, upgrade, uprate, or update of a facility, other than a section of pipe that cost more than $10 million. If a 60 day notice is not feasible because of an emergency, an operator must notify PHMSA as soon as practicable.*
    b. *An operator must notify PHMSA of any of the following events not later than 60 days after the event occurs:*
        i. *a change in the primary entity responsible (with an assigned OPID) for managing or administering a safety program required by this part covering pipeline facilities operated under multiple OPIDs*
        ii. *A change in the name of an operator*
        iii. *A change in the entity (e.g. company, municipality) responsible for an existing pipeline, pipeline segment, pipeline facility, or LNG facility*
        iv. *The acquisition or divestiture of an existing LNG plant or LNG facility.*

Item 7/7 - CPF 5-2015-0002M :

192.605 Procedural manual for operations, maintenance, and emergencies.
(b) Maintenance and Normal Operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
(4) Gathering of data needed for reporting incidents under Part 191 of this chapter in a timely and effective manner.

Norgasco has amended the company O&M Manual to establish written procedures for reporting the number of excavation tickets (we also call them locate requests) which occur each year in addition to the information already reported below:

1. Number of hazardous leaks either eliminated or repaired or total number of leaks if all leaks are repaired, categorized by cause;
2. Number of excavation damages;
3. Number of excavation tickets (also known as Locate Requests);
4. Total number of leaks eliminated or repaired, categorized by cause.

The Norgasco O&M Manual is amended as follows:

Norgasco O&M – Chapter 2, Section D, Integrity Management Program (near page 51).

Annually, Norgasco will tabulate the following information in order to meet the requirements of DOT 192.1007(g). This information includes four specific measures outlined below:

1. *Number of hazardous leaks either eliminated or repaired or total number of leaks if all leaks are repaired, categorized by cause;*
2. *Number of excavation damages;*
3. *Number of excavation tickets (aka Locate Requests);*
4. *Total number of leaks eliminated or repaired, categorized by cause.*

In addition, the tabulated data is used to update the Norgasco Distribution Integrity Management Program (DIMP) and the related SHRIMP software database so various statistical information can be derived from the field data.

Item 1/3 - CPF 5-2015-0001W:

192.616(h) Public Awareness.

(h) Operators in existence on June 20, 2005, must have completed their written programs no later than June 20, 2006. The operator or a master meter or petroleum as system covered under paragraph (j) of this section must complete development of its written procedure by June 13, 2008. Upon request, operators must submit their completed programs to PHMSA or, in the case of an intrastate pipeline facility operator, the appropriate State agency.

Norgasco completed the conforming written Public Awareness Plan in July, 2011 and replaced the prior Public Awareness Plan on the same date.

Item 2/3 - CPF 5-2015-0001W:

192.616(d) Public Awareness.

(d) The operator's program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:

(1) Use of a one-call notification system prior to excavation and other damage prevention activities;

(2) Possible hazards associated with unintended releases from a gas pipeline facility;

(3) Physical indications that such a release may have occurred;

(4) Steps that should be taken for public safety in the event of a gas pipeline release; and

(5) Procedures for reporting such an event.

Norgasco has added key educational information to our website that reiterates the public awareness information contained in our existing public awareness plan. Specifically, key educational information which indicates the proper steps the public should take in the event of a gas pipeline release was added. A copy of the Norgasco website information may be found online at www.Norgasco.com or in attachment 4 of this letter.

Item 3/3 - CPF 5-2015-0001W:

192.475(b) Internal Corrosion Control: General
(b) Whenever any pipe is removed from a pipeline for any reason, the internal surface must be inspected for evidence of corrosion. If internal corrosion is found
(1) The adjacent pipe must be investigated to determine the extent of internal corrosion;
(2) Replacement must be made to the extent required by the applicable paragraphs of 192.485, 192.487, or 192.489; and
(3) Steps must be taken to minimize the internal corrosion.

Norgasco agrees that no records of internal examination of steel pipe removed due to frost heave damage are currently available on file. To date, all steel pipes damaged due to frost heave have been repaired without removal or wholly replaced with HDPE plastic pipe. In cases where the steel pipe is replaced with HDPE pipe, the damaged steel pipe is abandoned underground and not available for internal inspection. However, in the event that Norgasco removes steel pipe from service, the following procedures have been added to the Norgasco O&M manual.

The Norgasco O&M Manual is amended as follows:

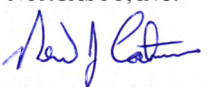
Norgasco O&M – Chapter 2, Section I (placed between Section I and Section J), Internal Corrosion Inspections – (near page 58).

> *Whenever any pipe is removed from a pipeline for any reason, the internal pipe surface must be inspected for evidence of corrosion. All observations of the internal condition of the removed pipe should be noted on an exposed line report. Any observation of internal pipe corrosion should be forwarded to the operations manager for review.*

If you have any questions or suggestions with regard to these items, please contact me at (907)562-5520 in Anchorage.

Sincerely,

NORGASCO, INC.



Richard J. Cathriner
President

Attachments:

1. Performance Pipe - Fusion Qualification Tests
2. Performance Pipe - Heat Fusion Joining Procedures and Qualification Guide
3. GF Central Plastics – Electrofustion Fittings
4. Norgasco, Inc – Website contents found at URL www.Norgasco.com.