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

October 17, 2011

10-24-11A07:30 RCVD

Mr. Dennis Hinnah
Deputy Director, Western Region
Pipeline and Hazardous Materials Safety Administration
188 W. Northern Lights Blvd., Suite 520
Anchorage, AK. 99503

Regarding: **CPF 5-2011-1005M and CPF 5-2011-1006W**

Dear Mr. Hinnah,

On August 26, 2011, Norgasco received Office of Pipeline Safety's response letter dated August 25th, for the above referenced inspections.

Please find the enclosed updated Norgasco Public Awareness Program which addresses:

- Items 1 through 5 of 5 apparent inadequacies mentioned in the Notice of Amendment **CPF 5-2011-1005M**
- Items 1 of 1 of probable violations mentioned in the Warning Letter **CPF 5-2011-1006W**
- Changes suggested during the course of the Public Awareness inspection

CPF 5-2011-1005M – Item 1/5: 192.616 Public Awareness Odorized Gas Locations

The Norgasco customer information packet has been updated with the following text at the bottom of page 1:

NORGASCO'S GAS TRANSMISSION AND DISTRIBUTION SYSTEM

Norgasco's natural gas transmission and distribution system is composed of two parts. The first portion is a pipeline that connects the oil field natural gas suppliers' fuel gas pipeline (currently operated by BP Alaska) to the Norgasco distribution system. This pipeline transports non-odorized gas about two miles from Flow Station 1 to the northern edge of the Deadhorse area. The second portion of the system, the distribution system, is a network of gas mains and service lines that provide access to natural gas throughout the Deadhorse area. Before the natural gas is distributed to end users via the distribution system, the gas is odorized such that unintended gas leaks from the distribution system or customer owned gas plumbing can be easily detected by smell.

CPF 5-2011-1005M – Item 2/5: 192.616 Public Awareness Unintended Gas Release Hazards

The Norgasco customer information packet has been updated with the following text on page 2:

Possible hazards associated with the unintended release of natural gas:

- *When mixed with air, the mixture can be ignited and burn freely.*
- *When air and natural gas accumulate in enclosed spaces, ignition of the air/gas mixture can be explosive.*
- *Digging through a buried natural gas line may cause a high pressure stream of natural gas to forcefully blow debris, dirt, gravel, and rocks which become projectiles that can cause injury.*

CPF 5-2011-1005M – Item 3/5: 192.616 Public Awareness Unintended Gas Release Physical Indications

The Norgasco customer information packet has been updated with the following text on page 2:

How to recognize a natural gas leak:

- *Smells like rotten eggs*
- *Look for discolored vegetation or bubbles in water*
- *Listen for hissing or loud roar*

CPF 5-2011-1005M – Item 4/5: 192.616 Public Awareness Steps for Public Safety in Case of a Gas Leak

The Norgasco customer information packet has been updated with the following text on page 2:

What to do in case of a gas leak:

- ***Leave** the area immediately*
- ***Call** NORGASCO at **907-659-2236***
- ***DO NOT** – use a phone near a leak, light a match or turn a light switch on or off. Call Norgasco from a neighbor's phone or away from the building!*
- *Call emergency responders if property or life are in danger*
- *Response from a NORGASCO technician will come quickly*

CPF 5-2011-1005M – Item 5/5: 192.616 Public Awareness Document Evaluation of Program in Accordance with API RP 1162, and
CPF 5-2011-1006W – Item 1/1: 192.616 Public Awareness Follow API RP 1162 General Program Recommendations.

The Norgasco Public Awareness Program, version 2.1 has been updated with the following text on pages 7 through 9 (see attached Norgasco Public Awareness document, version 2.1) to address both **CPF 5-2011-1005M – Item 5/5** and **CPF 5-2011-1006W – Item 1/1** (see below).

Public Awareness Program Evaluation

Annual Evaluation

The annual evaluation process primarily includes feedback from the stakeholder audience during distribution of the public information packet materials and during normal interaction with the customers during service installations and customer area gas service line locates. Feedback from the customers, emergency responders, etc is documented in the NI operator journals.

The NI PAP evaluation process is consistent with the steps and description found in the API RP 1162, Section 8 (Program Evaluation) as it applies to the scope of Norgasco's operation. The primary purpose of the evaluation process is to:

- *Provide Norgasco, Inc. personnel with information related to Public Awareness Program (PAP) verification as well as implementing improvements based on findings from the evaluation*
- *Assess whether the current PAP is effective and has reached the intended audience*

Measuring PAP Implementation:

Norgasco, Inc. annually audits the PAP using an internal self-assessment process and also utilizes feedback from DOT regulatory inspections. Changes to the PAP are then incorporated into the PAP documentation including: the Norgasco Public Awareness Program document, and the Customer Information Packet. Any missing stakeholder contacts are noted and used to improve the PAP.

Measuring PAP Effectiveness:

Each year Norgasco assesses progress in the following areas to make sure we are achieving the intended goals and objectives. These measures are:

1. *Whether the information is reaching the intended stakeholder audience.*

2. *If the recipient audience understands the delivered messages.*
3. *Whether the recipient audience behaves in accordance with the delivered message.*
4. *Assess whether the PAP is having a net positive or negative effect on reducing line hits, third party damage, etc.*

Measure 1: Outreach: Percentage of Intended Audience Reached with Desired PAP Message

Operators log each delivered customer information packet onto a Customer Information Packet Drop Off log sheet. This log sheet is checked to make sure each customer has received a packet. Operator's journal entries are checked to make sure local emergency responders and public officials have been properly contacted and informed.

Measure 2: Understandability of the Message Content

Norgasco operators (in the service area) read the Customer Information Packet before delivery to insure the content is understandable. As the Customer Information Packet is hand delivered to the various stakeholders, the operators ask the recipients if they have any questions regarding said information. Furthermore, the operators invite the recipients to call or stop by the Norgasco Camp if the recipient has any future questions.

Measure 3: Desired Behaviors by the Intended Stake holder Audience

Stakeholder behavior during the year is assessed by reviewing operator journals, exposed line reports and other sources of stakeholder behavior. Twice per day patrols of the distribution system help find those customers who may be excavating in the Deadhorse area. Stakeholders found excavating without access to a Customer Information Packet and a line locate map are noted in the operator journals and thus become part of the feedback into the PAP.

Measure 4: Achieving Bottom Line Results

Tracking of leaks caused by third party excavation damage is tabulated by inspecting the operator logs, leak reports, exposed line reports, etc. For example; in 2010 there were thirteen (13) exposed line reports, zero (0) leaks, and zero (0) line hits. Each year's tabulations are collectively used to assess the effectiveness of PAP.

Four Year Evaluation

At least every four years, the annual self-assessment information is summarized for the prior four years, especially the "bottom line results", and used to update, validate, and improve the PAP. The current four year assessment summary is as follows:

Year of Report	*Exposed Line Reports*	*Incident Reports (note 2)*	*Incident Reports with resulting leaks*
2010	*13*	*0*	*0*
2009 (note 1)	*33*	*2*	*0*
2008	*4*	*0*	*0*
2007	*6*	*3*	*0*

Notes:

1. *2009 was an abnormally busy year since the local electric utility was replacing much of their electrical distribution system throughout the Deadhorse area.*
2. *Tabulation of all known line hits that may or may not have resulting gas leaks.*

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
Vice President of Operations

Attachments:

Norgasco, Inc – Public Awareness Program, version 2.1
Norgasco, Inc – Customer Information Packet, dated: October 15, 2011

NORGASCO, INC.

Public Awareness Program

Revised: October 10, 2011, Version 2.1

Table of Contents:

Public Awareness Program - Introduction, Overview and Document Organization

- Introduction

  Norgasco Inc. has implemented a Public Awareness Program since the company's startup in the late 1980s. Over time many changes, improvements, and additions have been implemented. This document is another step in the ongoing improvement of the Company Public Awareness Program that formally sets out the goals, objectives, methods, and standards.

- Overview

  In the early 2000s the DOT and API suggested a uniform guideline for the pipeline and distribution industries to follow in order to create working Public Awareness Programs. This guideline, API RP 1162, is used as the basis for the organization and content of the Norgasco, Inc. Public Awareness Program (NI PAP or PAP) as it pertains to the scope and needs of Norgasco's customers, emergency responders, public officials, and excavators.

- Document Organization

  The PAP document is organized in the manner suggested by API RP 1162 as twelve sections. These sections are:

  - Public Awareness Program Objectives
  - Management Commitment and Support
  - Administration
  - Pipeline and Distribution System Assets
  - Stakeholder Audiences
  - Message Type and Content for Each Stakeholder
  - Baseline Message Delivery Frequency
  - Message Delivery Methods
  - Assess Considerations for Supplemental Program Enhancements
  - Implement Public Awareness Program and Track Progress
  - Public Awareness Program Evaluation
  - Public Awareness Program Continuous Improvement

Overall Public Awareness Program Objectives

The overall goal of the NI Public Awareness Program (PAP) is to enhance the public's environmental and safety protection through increased public awareness. A more informed public has a significant role in helping prevent accidents and respond in emergency situations.

Management Commitment and Support

Norgasco Inc's company policy with regard to the NI Public Awareness Program (PAP) is:

> Norgasco Inc shall implement all steps necessary to create and maintain a working public awareness program that not only complies with CFR 192, but also is an effective and practical system to communicate with all "stakeholders" connected to the NI transmission and distribution system. Implementation of the NI PAP includes: funding, management participation, operator participation, and participation of all stakeholders.

Operations Manager Signature: _____ 10/17/11

Public Awareness Program Administration

The Public Awareness Program is administered by:

- NI operations manager

  The operations manager provides guidance and supervision of the PAP for the company. His duties include:

  - Assignment of duties
  - Supervision of documentation efforts
  - Funding
  - Management participation

- Lead and Junior operators (on duty)

  The Lead Operator is responsible for identification of the stakeholders in the transmission and service area. He is also responsible for assignment of work related to implementing

the NI PAP including interaction with customers, emergency personal, public officials, and other public awareness stakeholders.

- Administrative assistance for documentation support and record keeping

  Collection and control of documentation of the NI PAP is facilitated by the administrative personal in the Anchorage office. Documents and records collected from stakeholder interaction and verification of PAP deliveries are kept in the Anchorage office for the required period of time as specified in API RP 1162 (section 7).

Currently the individuals that occupy these positions are:

- Operations Manager is Richard Cathriner, V.P. Operations
- Lead operators are Jon Steele and Russ Adcock
- Junior operators are Kyle Wagg and Nathan Myers
- Administrative assistance and record keeping from Denice Callander

Pipeline and Distribution System Assets Included Within the PAP

All portions of the NI transmission and distribution system assets are covered by the NI PAP. The administrator for the NI PAP is the NI Operations Manager assisted by field operators and office administrators.

NORGASCO'S GAS TRANSMISSION AND DISTRIBUTION SYSTEM

The Norgasco natural gas transmission and distribution system is composed of two parts. The first portion is a pipeline that connects the oil field natural gas supplier's fuel gas pipeline (currently operated by BP Alaska) to the Norgasco distribution system. This pipeline transports non-odorized gas about two miles from Flow Station 1 to the northern edge of the Deadhorse area. The second portion of the system, the distribution system, is a network of gas mains and service lines that provide access to natural gas throughout the Deadhorse area. Before the natural gas is distributed to end users via the distribution system, the gas is odorized such that unintended gas leaks from the distribution system or customer owned gas plumbing can be easily detected by smell.

Stakeholder Audiences

Stakeholder audiences are identified by physical, geographic, or indirect connections to the NI transmission and distribution system. Possible stakeholders are described in API RP 1162 (Stakeholder Audiences), however, the following list describes stakeholders in or near our transmission and distribution system. They include:

- Affected public such as: NI natural gas customers within the NI service area with workers in the NI service area (e.g. oil field workers connected to operation of the Prudhoe Bay oilfields). All shops and facilities in the Deadhorse area have access to natural gas and are customers of Norgasco. Norgasco has a complete list of addresses and phone numbers for all customers, although most PAP materials and information are hand delivered in person.
- Emergency officials such as: BP Fire and Rescue, Deadhorse/Borough emergency officials, police, etc.
- Local public officials such as the Borough Administrator.
- Excavators include most of our customers (see first bullet above).

Phone numbers, contact information and addresses for all of our customers (and excavators) are on file in Anchorage and in the Deadhorse camp/office. The customer information is derived from administrative contact information and on-going service agreement information. Phone numbers and contact information are also kept for access to emergency officials and public officials (phone numbers and contact information are kept in Deadhorse).

Message Type and Content for Each Stakeholder

The message content to all stakeholders is based on distribution of the NI Customer Information Packet (attached with this PAP) and a NI transmission and distribution system map (filed at the Anchorage and Deadhorse offices). Message content is also based on prior communications with all stakeholders and is consistent with API RP 1162 (Message Content).

Message content to each of the stakeholders includes:

- Affected Public: NI Customers and affected public receive an information packet and a site system map (a portion of the system wide map) when they or their excavator contractor call in for 'locates'.

- Emergency Officials: Emergency officials receive a customer packet, system map of the transmission and distribution system, and a visit/talk presenting the NI natural gas system to emergency responders.
- Public Officials: Public officials include the Borough which receives a customer packet.
- Excavators: same as Affected Public above.

Baseline Message Delivery Frequency

All stakeholders will receive their respective PAP materials at least once annually. Additional PAP materials will be distributed by request or ad hoc as needed.

Message Delivery Methods

Most PAP materials are hand delivered by Lead Operators or Junior Operators directly to the Customer/Camp/Facility manager. Those materials that cannot be delivered in person are sent via mail such that tracking records confirm delivery.

Documentation of PAP delivery will be by logged entry (operator journal, datasheet, or other) of in person delivered PAP materials or by mail delivery confirmation. (See appendices for confirmation of PAP material delivery.)

Pipeline markers are purchased and installed to mark the approximate location of transmission lines and distribution system piping. These markers include contact information and a warning of underground pipelines.

Below ground markers or warning tape is also installed above service lines that connect Customers to NI mains.

Assess Considerations for Supplemental Program Enhancements

API RP 1162 (Supplemental Activities) was reviewed to assess the applicability of supplemental program enhancements as well as inputs from Operators, Customers, and other Stakeholders.

Supplemental program enhancements include:

- Twice per day service area and pipeline patrols that identify excavation equipment in operation that have not already contacted NI Operators.
- 24 hour per day, 7 day per week telephone support for anybody that calls our operations office in the Deadhorse area. Business day support is 7AM through 7PM with ad hoc support after hours for locates or other assistance (One Call programs do not adequately cover the needs of Stakeholders in the Deadhorse area, so this supplemental program enhancement is intended to replace One Call systems in our area).
- Locate services for other utilities in the Deadhorse area.
- NI operators are on call to emergency response crews, oil field operations, and public officials.

Implement Public Awareness Program and Track Progress

Implementation of the NI PAP includes:

- Allocation of resources related to publication of the information packet.
- Review, assess, and revise distribution information as needed.
- Assign PAP distribution tasks to NI Operators in our customer's area and distribute packets by mail if customers (and/or stakeholders) do not office in the Deadhorse area.
- Distribute information to customers (and excavators) in our service area.
- Distribute information to emergency responders in our area.
- Distribute information to public officials connected to the Deadhorse area.
- Conduct meetings with emergency responders (and their alternates). Emergency responders include BP Fire & Rescue and local Deadhorse/Borough law enforcement officials.
- Document interaction with the various stakeholders.

Verification of Delivery and documentation of stakeholder interaction are located in the appendices of this document.

Public Awareness Program Evaluation

Annual Evaluation

The annual evaluation process primarily includes feedback from the stakeholder audience during distribution of the public information packet materials and during normal interaction with the customers during service installations and customer area gas service line locates. Feedback from the customers, emergency responders, etc is documented in the NI operator journals.

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2007	6	3	0

Notes:

1. 2009 was an abnormally busy year since the local electric utility was replacing much of their electrical distribution system throughout the Deadhorse area.
2. Tabulation of all known line hits that may or may not have resulting gas leaks.

Public Awareness Program Continuous Improvement

Continuous improvement process includes:

- Assessment of the program evaluation information to find areas for improvement as well as suggest ideas for the improvement.
- Update the Public Awareness Program to incorporate the ideas for improvement.
- Document any changes to the Public Awareness Program
- Implement the changes and monitor the results of the change.

The NI PAP continuous improvement process is consistent with the steps and description found in the API RP 1162.

Improvement Revision Summary

Revision	Date	Description of Changes/Additions/Etc
Initial PAP	1989 thru 1991	Initial Public Awareness Document and Customer Information Packet
Version 2.0	July 5, 2011	Reformatted to follow API RP 1162
Version 2.1	October 10, 2011	Updated Customer Info Pkg with DOT comments and added RP 1162 "self assessment" section to PAP.
Version 2.1	Mid November, 2011	Added "Call Before You Dig" sticker to Customer Information Packet (Also applied to digging equipment in the Deadhorse service area).

Appendix A – Customer Information Packet

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

October, 2011

Dear Customer,

The following is a collection of informational memos that might be of interest to you. Please pass this booklet or a copy thereof to the proper personnel in Contracts, Accounting, and Operations. Thank you.

NORGASCO Operations in Deadhorse:

Main Number: 659-2236
Emergency / Alternate Number: 659-2561
Fax Number: 659-2235

The Emergency / Alternate Number rings the Deadhorse office first, then the radios in our equipment, then our voice pagers.

NORGASCO Administrative / Engineering in Anchorage:

Main Number: 562-5520
Fax Number: 562-5530
E Mail address: .....norgasco@alaska.net
Web address: .....http://users.astacalaska.com/norgas

NORGASCO'S GAS TRANSMISSION AND DISTRIBUTION SYSTEM

Norgasco's natural gas transmission and distribution system is composed of two parts. The first portion is a pipeline that connects the oil field natural gas suppliers' fuel gas pipeline (currently operated by BP Alaska) to the Norgasco distribution system. This pipeline transports non-odorized gas about two miles from Flow Station 1 to the northern edge of the Deadhorse area. The second portion of the system, the distribution system, is a network of gas mains and service lines that provide access to natural gas throughout the Deadhorse area. Before the natural gas is distributed to end users via the distribution system, the gas is odorized such that unintended gas leaks from the distribution system or customer owned gas plumbing can be easily detected by smell.

CALL 907-659-2236 BEFORE YOU DIG!!!!!

Anytime you plan excavation, you must call us for gas line location; Even if the excavation area is on your pad, or downstream of the gas meter, we will be glad to assist you in locating your gas lines. Exercise reasonable care! Dig by hand within two (2) horizontal feet of buried utilities.

- Working within the tolerance zone:

Tolerance zone is the approximate location of underground utility facilities defined as a strip of land the width of the underground facility plus 2 feet on either side based upon the locate markings. Excavation within the tolerance zone requires extra care and precaution. Some of Norgasco's gas pipes are plastic pipes accompanied by an insulated copper wire. These pipes and wires can be damaged by picks and shovels. We recommend using an air knife and/or a vacuum truck to expose these lines. Frozen ground may be thawed with hot air, hot water or heated ground cloths. An excellent reference for more information is the Alaska Dig line Excavator Handbook. It is available free online at http://akonecall.com/contractors/

NATURAL GAS SAFETY!!

Natural gas is odorless, colorless, tasteless, and less dense than air. For safety reasons odorant is added to the gas to make it noticeable and unpleasant. The possible hazards associated with the release of Natural Gas are its explosive properties and subsequent fire danger.

How to recognize a natural gas leak:

- *Smells like rotten eggs*
- *Look for discolored vegetation or bubbles in water*
- *Listen for hissing or loud roar*

What to do in case of a gas leak:

- ***Leave** the area immediately*
- ***Call** NORGASCO at **907-659-2236***
- ***DO NOT** – use a phone near a leak, light a match or turn a light switch on or off. Call Norgasco from a neighbor's phone or away from the building!*
- *Call emergency responders if property or life are in danger*
- *Response from a NORGASCO technician will come quickly*

Possible hazards associated with the unintended release of natural gas:

- *When mixed with air, the mixture can be ignited and burn freely.*
- *When air and natural gas accumulate in enclosed spaces, ignition of the air/gas mixture can be explosive.*
- *Digging through a buried natural gas line may cause a high pressure stream of natural gas to forcefully blow debris, dirt, gravel, and rocks which become projectiles that can cause injury.*

WHAT TO DO IF YOU DAMAGE A GAS LINE

If you damage a gas line, call NORGASCO 24-hour number 907-659-2236. Call Norgasco at any time a line is broken, scraped, pulled, cut or otherwise damaged. If the damage results in release of natural gas and there is danger to life or property, you should call the Fire Department. Eliminate all ignition sources and evacuate the area of the damage. Wait for Norgasco to shut off the flow of gas and make repairs.

ADDING NATURAL GAS HEATERS OR OTHER EQUIPMENT?

Please notify us when you plan any equipment upgrades, addition of equipment, or change in gas piping so we may insure correct meter and regulator sizing. Failure to do so could result in inefficient operation or damage to equipment. Please consult the "National Fuel Gas Code" (NFPA 54) and the Uniform Plumbing Code (UPC) when adding piping, ventilation, or equipment

ACCESS TO METERS

NORGASCO reads all of the gas meters in Deadhorse on the 15th and last day of every month. Access to the gas meters located at your facilities must be maintained at all times. We periodically do leak tests, surveys, and regulator set changes that require access to the meter sets. **If NORGASCO has to clear snow or other obstructions from the meter set, we will be required to charge according to our current labor rates.**

CUSTOMER GAS PLUMBING

Customer understands that all plumbing downstream of the meter, being above ground or buried, is the sole responsibility of the Customer. If the customers buried pipe is not maintained, it may be subject to the potential hazards of corrosion and leakage. The buyer's buried gas piping should be periodically checked for leaks, periodically inspected for corrosion if metallic, and repaired if any unsafe conditions are identified. When the customer is excavating near any buried gas piping on buyer's premises, the piping should be located ahead of time and excavated by hand. Norgasco will be available for no fee to locate Norgasco's buried gas piping on the buyer's property. Norgasco will locate the buyer's buried gas piping for a fee from Norgasco's attached rate sheet. Buyer's are responsible for installation and maintenance of gas appliances, heaters and gas operated devices downstream of the Company's meter.

CARBON MONOXIDE

Carbon monoxide (CO) is an odorless, colorless gas that is very toxic because it combines with the body's blood and prevents it from absorbing oxygen. Carbon monoxide results from the incomplete combustion of a fuel.

A person exposed to carbon monoxide may complain of dizziness, headache, nausea, sleepiness, and similar symptoms. In extreme cases, carbon monoxide poisoning can be fatal.

Vents, equipment, and chimneys which are not properly installed, used, or maintained are the primary cause of carbon monoxide problems associated with heating equipment and appliances that use fuel oil, kerosene, propane, or natural gas.

Internal combustion engines also produce carbon monoxide, even when operating properly. For this reason, a vehicle engine or other type of internal combustion engine should never be operated in an enclosed area without proper ventilation.

When natural gas is used in a properly adjusted burner with adequate air supply, its primary byproducts are carbon dioxide and water vapor, the same substances that are exhaled when we breathe. However, when there isn't enough air to support combustion, less carbon dioxide is produced and carbon monoxide is produced.

Carbon monoxide can be dangerous, but proper use and maintenance of appliances and equipment can ensure their continued safe operation.

Carbon monoxide detectors can be purchased in Prudhoe Bay at Brooks Range, or in Anchorage at Costco, Fred Meyer, or a number of other stores. If you need assistance in obtaining carbon monoxide detectors, please call us in Anchorage at 562-5520.

KEEP YOUR VENT STACKS CLEAR OF ICE

As mentioned above, one of the combustion products of natural gas is water vapor, which in Deadhorse, means ice. Visually inspect exhaust vents from your natural gas equipment to make sure there is no ice buildup, which could restrict the flow from the vent.

NORGASCO LABOR RATES

If working around natural gas pipelines or meter sets, please allow us to assist you with your projects.

Labor	$125.00 per man-hour from 0700 hrs to 1830 hrs. Minimum 1 hour - ½ hour increments. $177.50 per man-hour from 1830 hrs to 0700 hrs. Minimum 2 hours on call-outs between 1830 hrs and 0700 hrs - ½ hour increments.
Backhoe	$225.00 per hour including Operator. Minimum 2 hours - ½ hour increments.
Loader	$275.00 per hour including Operator. Minimum 1 hour - ½ hour increments.
Trencher	$525.00 per hour including 2 Operators. $30.00 per tooth replaced. Minimum 4 hrs.

Although we will do our best to avoid underground obstacles, we cannot be responsible for damage to them. We do not rent the Trencher or Backhoe during winter months.

READING YOUR GAS METER

If you have a dial type index on your gas meter and have no experience reading this type of index, get instruction from a Norgasco Operator. We eventually hope to have direct-read (odometer type) indexes on all meters.

Your meter index registers in hundred cubic feet increments.

Example:

Your prior meter read is 12,345. Your current meter read is 23,456.

23,456 - 12,345 = 11,111, so the difference is actually 1,111,100 cubic feet (note that this should not be confused with *standard* cubic feet (SCF).

To get SCF from the meter reading there are two meter factors normally used - pressure meter factor and temperature meter factor. Norgasco's meters in Deadhorse automatically correct for temperature so the only meter factor we are concerned with is the pressure meter factor.

The pressure meter factor is calculated as follows:

$$\frac{\text{(14.65 (meter atmospheric pressure) + Gauge pressure of the meter)}}{\text{14.73 (standard atmospheric pressure)}}$$

so if, in the example above, your meter pressure is 30 psi your meter factor would be (14.65+30)/ 14.73 = 3.0312.

to calculate SCF used multiply your meter factor with your cubic feet read from the meter.

1,111,100 x 3.0312 = 3,367,966.3 SCF

Now, to calculate the number of MMBtu's for the period in question, use the current heating value (usually around 940 Btu/SCF).

Using 940 Btu/SCF for our example,

3,367,966.3 x 940 = 3,199,567,985 Btu

divide this number by 1,000,000 to obtain MMBtu

3,199,567,985 / 1,000,000 = 3,199.6 MMBtu

To get BtuH or BH (Btu's per hour) from SCFH (standard cubic feet per hour):

Example

You want to figure out how much of a load you can add without changing your meter or your pressure.

Your meter is an AL5000 and your pressure is 30 psig.

Using the American meter catalog, you see that the meter has a capacity of 25,000 SCFH at 30 psi for .6 specific gravity gas.

Our natural gas has a specific gravity of .73. From NFPA 54 the conversion factor is .9 so 25,000 SCFH x .9 = 22,500 SCFH

Design Btu/Cubic foot is 940
so 22,500 SCFH x 940 Btu/CF = 21,150,000 Btu

To get SCFH from BtuH:

Example

You want to size a regulator for a particular application, but the nameplate data off of the equipment is in Btu per hour and the regulator capacity charts are in SCFH. Keep in mind that the nameplate data you are looking for is *input* Btu per hour.

1 MMBtu	=	1,000,000 Btu
1 MBtu	=	1,000 Btu

You have a 1.5 MMBtuH Sureflame Heater.

1.5 MMBtuH = 1,500,000 Btu per hour

Design Btu/Cubic foot is 940
so 1,500,000 BtuH ¸ 940 Btu/CF = 1595.7 SCFH

Our natural gas has a specific gravity of .73. Most sizing charts are written for .6 specific gravity natural gas so you need a conversion factor. The conversion factor for .73 is .9 (from NFPA 54). So 1595.7 SCFH / .9 = 1773 SCFH

Now using your regulator sizing charts, size for 1773 SCFH

Appendix B – Customer Packet Drop Off Form with Public Awareness Verification

(NO CHANGE)

Appendix C – Awareness Verification to Affected Public, Excavators, and Customers

(NO CHANGE)

Appendix D – Public Awareness Confirmation to Emergency Responders, Local Police and Public Officials/Administrators

(NO CHANGE)