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September 26, 2022

Oregon Public Utility Commission  
Attn: Filing Center  
201 High Street S.E., Suite 100  
Salem, OR 97301-3398

**Re: UM 1899, Cascade Natural Gas Corporation's System Safety Plan**

Cascade Natural Gas Corporation (Cascade or Company) submits its annual System Safety Plan in compliance with Commission Order No. 17-084, entered March 6, 2017. The Order requires natural gas companies to submit an annual "Safety Project Plan" (Plan) report to the Commission by September 30<sup>th</sup> of each year. The Order lays out the requirements of the Plan, which is to be provided to the Commission as an informational report only. The Company's attached report satisfies these requirements, demonstrates Cascade's priority commitment to natural gas safety, and meets the objective of being informational and easy to understand for the public, our customers, and other regulatory stakeholders.

Please contact me at (509) 734-4599 if you have any questions.

Sincerely,

*/s/ Ryan Privratsky*

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**Cascade Natural Gas Corporation  
2023 Annual Oregon  
System Safety Plan**

**OPUC Commission Order No. 17-084**

**September 2022**

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APPENDIX A – Damage Prevention & Public Awareness Information

## I. Overview of Cascade Natural Gas Corporation

Until the early 1950s, Pacific Northwest communities outside the larger metropolitan areas were passed over for natural gas service. In 1953, Pacific Northwest businessmen Lester Pettit, Spencer Clark, and Stewart Matthews formed Cascade Natural Gas Corporation (Cascade) to serve these communities with clean, affordable natural gas.

In those early days, the founders faced many financial, engineering, and operational challenges as they strived to expand service and enhance their operations. Cascade grew steadily to become one of the fastest growing natural gas utilities in the nation.

Today, Cascade is a regulated utility offering natural gas service in the states of Oregon and Washington. Cascade has approximately 310,275 total customers in 95 communities – 67 of which are in Washington and 28 in Oregon. Cascade's service areas are concentrated in western and central Washington, and central and eastern Oregon. Cascade owns and operates approximately 24.41 miles of transmission pipeline, 1,711 miles of distribution pipeline, and 79,889 services in Oregon. Interstate pipelines transmit Cascade's natural gas from production areas in the Rocky Mountains and western Canada. Customers in Oregon are served from Cascade's Southern region which includes Bend and surrounding communities, Ontario, Baker City, and the Pendleton/Hermiston areas.



### Communities Served in Oregon

Athena	Gilchrist	Milton-Freewater	Prineville
Baker City	Hermiston	Mission	Redmond
Bend	Huntington	Nyssa	Stanfield
Boardman	Irrigon	Ontario	Sunriver
Chemult	La Pine	Pendleton	Umatilla
Crescent	Madras	Pilot Rock	Vale
Echo	Metolius	Powell Butte	Weston

Cascade's headquarters is located in Kennewick, Washington.

## II. System Safety Plan Overview

This System Safety Plan (Plan) conforms to the requirements established in Order No. 17-084 (Order), issued in Docket No. UM 1722, the Commission's Investigation into the Recovery of Safety costs by Natural Gas Utilities. The Order requires local distribution companies (LDCs) to file a system safety plan each year which provides the following:

- An explanation of the Company's commitment to and prioritization of safety planning.
- An explanation of the technical reports provided to the Commission's Safety Staff.
- An explanation of the perceived risks addressed by the Company's safety initiatives.
- A brief narrative of each safety program for the 12-month planning period, including:
  - Supporting analysis underlying the safety initiatives.
  - A discussion of the cost-benefit analysis supporting Company decisions, and
  - A narrative on alternatives safety initiatives that the Company considered.
- The expected level of capital and Operations and Maintenance (O&M) expenses required to mitigate issues identified by risk analysis or to meet newly implemented federal code.
- An update on regulatory and legislative changes, and
- A list of any program changes from the prior reporting year.<sup>1</sup>

This Plan provides the required information, as listed above, for the 12-month timeframe of January 1, 2023, through December 31, 2023 (2023).

## III. Cascade's Commitment to and Prioritization of Safety Planning

Cascade is committed to providing its customers with safe and reliable gas service. To accomplish this, Cascade is continuously engaged in initiatives aimed at maintaining the integrity of Cascade's pipeline system. The list below highlights Cascade's significant pipeline safety functions:

- System Integrity Department responsible for Cascade's Distribution Integrity Management Plan (DIMP) and its Transmission Integrity Management Plan (TIMP), which are discussed in more detail in [Section VII](#) of this Plan. The System Integrity team is also tasked with assessing risks to Cascade's pipeline system and creating plans to mitigate these risks.
- Public Awareness & Damage Prevention (PA/DP) Department responsible for Cascade's Public Awareness and Damage Prevention programs, which are discussed in more detail in [Section VII](#) of this Plan. The PA/DP Department leads Cascade's efforts in promoting safety information, reducing damages, and educating customers, public, and contractors about natural gas and excavation safety.

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<sup>1</sup> Commission Order No. 17-084, Appendix A, pages 4-5, ¶ 20 and ¶ 22

- Policy & Procedure Department and a Management of Change (MOC) process used to propose, change, approve, and notify all affected personnel of procedural and technical changes, and to deliver and track training to affected personnel.
- Cascade's Safety and Technical Training Department performs many safety-related responsibilities focused on keeping Cascade employees and the public safe. In compliance with 49 CFR Part 192 Subpart N, this department is tasked with technical training for individuals performing tasks on our pipeline facility, assigning initial qualifications and subsequent reevaluations to qualified individuals and the administration of recordkeeping to help ensure that Cascade employees are qualified. An employee may not perform work on Cascade's pipeline facility without the proper training and completion of required qualifications.
- Achieving Continuous Excellence (ACE) is the name of Cascade's Safety Management System (SMS) modeled from the pipeline industry recommended practice of [API RP 1173](#). Within the API RP 1173 SMS framework there are 10 essential program elements that the organization is required to establish and maintain. The ACE program is based on the Plan-Do-Check-Adjust (PDCA) continuous improvement framework and includes these elements. The goal of Cascade's ACE program is to identify and reduce operational risks for the organization, while promoting a culture of continuous improvement. Successful implementation of this program requires not only leadership commitment, but also the input and support of every employee. The program is supported by a five-person department and has reached a level three maturity (fully implemented) out of five levels. The maturity model is based upon an industry collaborative [Pipeline SMS Maturity Model](#). Cascade is fully committed to the ACE program to address risk by proactively and continuously improving pipeline safety.
- Quality Management Systems (QMS) Department which performs quality reviews and inspections to verify conformance to established company standards. The QMS programs include Quality Systems & Reporting, Records & Reviews, and Inspections. The QMS Department has plans to increase staffing levels in 2023, specifically targeting Bend, OR as a location for a new QMS Specialist.

#### **IV. Technical Reports Filed Annually with the Commission's Safety Staff**

In 2022, Cascade filed the following technical reports with the Commission's Safety Staff:

- An O&M Manual was filed in April 2022. The O&M Manual is filed annually in compliance with 49 CFR §192.605. This manual provides procedures for all O&M tasks that Cascade performs on its facilities. O&M Manual updates are also submitted throughout the year upon request.
- Cascade provided the Commission with an updated TIMP (OPS 900) in April 2022.
- Cascade provided the Commission with an updated DIMP (OPS 1000) in April 2022.
- 2021 PHMSA Gas Distribution System Annual Report
- 2021 PHMSA Gas Transmission and Gathering Systems Annual Report

In a typical year, Cascade also responds to the Commission's data requests and to findings in Commission audits.

## V. Risks to Cascade's Distribution System

By using Cascade's DIMP risk model, which is described in more detail in [Section VII](#), Cascade has identified the following top four threats to its distribution pipeline system:

### 1. Excavation Damage

Excavation Damage is the largest, system-wide threat to Cascade's system. Excavation Damage is the breaking, cutting, or other destruction of pipeline facilities caused by earth moving or other equipment, tools, or vehicles. All buried facilities in Cascade's distribution system are in danger of being damaged by excavation activities. Consideration is given to piping within protective casings, inside underground structures such as basins or vaults which may be shielded or protected from excavation damage. The most significant root cause factors for Excavation Damage are listed below:

- An excavator uses insufficient excavation practices.
- The excavator does not comply with Oregon law that requires anyone planning to break, move, or displace soil to contact Oregon Utility Notification Center (OUNC) to request that all underground utilities be identified before breaking soil.
- Underground utilities in the excavation site are not properly located and marked because the OUNC representatives were unable to find the excavation area.
- The OUNC is unable to properly locate underground utilities because the excavator failed to properly identify the excavation area, and
- Records of underground utilities are incorrect and, therefore, underground facilities are not properly located prior to excavation.

Cascade's efforts to reduce excavation damages is described in more detail in the Public Awareness and Damage Prevention section in [Section VII](#) of this Plan.

### 2. Weld/Joint Failure

Weld/Joint failure is the second largest, system-wide threat to Cascade's distribution system. Weld/Joint failure risk is identified when it is known or anticipated that potential defects in pipe, fittings, components, and joints may be present due to manufacturing processes and welding standards for the pipe vintage. Below are the descriptions of major factors that contribute to Cascade's Weld/Joint risk:

- Weld Standards: Risk is assigned to steel pipe installed prior to 1980 due to 49 CFR Part 192 requirements for operators in weld standards and welder qualifications that were federally mandated in 1970. By 1980 Cascade had significantly increased weld standards and welder qualifications to meet 49 CFR Part 192 requirements.
- Two (2") inch 1960's Vintage Gas Welds: In 2018 Cascade completed a weld investigation on 1960's vintage two (2") inch steel gas butt welds, and found a high

percentage of visual inspection failures and destructive testing failures causing concern for weld integrity for size and vintage.

- **External Stresses on Vintage Welds:** External stresses on vintage welds is an interactive threat on vintage steel (defined as pre-1980 and or an unknown install date) main and service welds susceptible to landslide and or frost heave external stresses. Frost heave and landslide soil movement longitudinal external stresses and displacement strain might be readily tolerated by some materials or piping in sound condition, while low ductility materials or pipe joints made by vintage techniques may remain reliable absent certain external stresses, however, when these circumstances exist simultaneously the likelihood of failure in the pipeline is significantly greater due to interacting threats.

Cascade's efforts to reduce risk associated with Weld or Joint failure is described in more detail in the System Safety & Integrity Program (SSIP) section in [Section VI](#) of this Plan.

### 3. Missing Values

Missing Values is the third largest, system-wide threat to Cascade's system. Missing Values refers to unavailable data points, such as pipe installation date, material type, leak cause, and other values that are necessary to identify threats on the system through use of Cascade's risk model.

Cascade's efforts to reduce risk associated with Missing Values is described in more detail in the System Safety & Integrity Program (SSIP) section in [Section VI](#) of this Plan.

Cascade is also continuously working to clean up GIS data and populate missing attribute values in GIS to decrease the total amount of missing values.

### 4. Corrosion

Corrosion is the fourth largest, system-wide threat to Cascade's distribution system. Corrosion is the result of electrochemical reactions between metals and substances in the environment. All metallic pipe and affixed components are subject to the threat of external corrosion. Internal corrosion is a threat when liquid water has infiltrated the pipe. Cascade does not transport corrosive gas in its distribution system; and, therefore, internal corrosion is unlikely. Atmospheric corrosion is a subset of external corrosion that will occur only on pipe and components that are not buried. Below are the descriptions of major factors that currently contribute to Cascade's Corrosion risk in Oregon:

- **Material Age:** Cathodic protection was mandated federally in 1970 and all of Cascade's distribution systems were fully protected by 1978. Pipe installed prior 1978 is at a higher risk of operating with no or inadequate cathodic protection.
- **Atmospheric Corrosion:** Aboveground pipe is susceptible to the threat of atmospheric corrosion in areas where environmental conditions result in increased likelihoods for atmospheric corrosion to occur. Some of these factors include proximity to saltwater bodies of water, areas with high annual rainfall, bridge crossing, and facilities in vaults.



- **Cathodic Protection Treats:** Various threats exist that impact Cascade's cathodic protection systems from providing adequate cathodic protection. These threats can result in a higher external corrosion threat. Some of these threats include steel pipe in arid climates (annual rainfall  $\leq 15$  inches/year), cathodic protection shielding, steel pipe casings, and electrically shorted casings.

Cascade's efforts to reduce risk associated with Corrosion is described in more detail in the System Safety & Integrity Program (SSIP) section in [Section VI](#) of this Plan.

Additional threats to the distribution system include material, MAOP documentation, natural forces such as landslides, lightning, or earthquakes; other outside forces such as fires, vandalism, or vehicular damage; equipment failure such as the malfunction of a control valve or regulator; and incorrect operation, which refers to human error when performing a task.

## **VI. System Safety & Integrity Program (SSIP)**

Cascade's SSIP is a structured replacement program for replacing early vintage steel pipe (EVSP). EVSP is steel mains, service lines, and associated fittings installed earlier than January 1, 1970. These pipeline segments present an increased risk of failure due to age and obsolete materials, parts, and/or equipment. Cascade's SSIP utilizes Cascade's DIMP risk model and relative risk score to establish a weighted average risk score for each town within Oregon. The weighted average risk score is then used to identify towns with increased risk related to EVSP.

The primary risks on EVSP include external corrosion, material, weld, or joint failure, equipment failure, MAOP documentation, and missing data. External corrosion on EVSP is attributed to bare, disbonded, damaged or poorly performing pipe coatings, poor soil and backfill conditions, ineffective cathodic protection, and other factors. Material, weld, or joint failure on EVSP is typically associated with issues with pipe welds made during installation (lack of weld standards and welder qualification), vintage acetylene gas welds, or pipe and fitting material leaks. Equipment failures on EVSP are normally contributed to leaks at main to service connections where O-rings have failed, mechanical couplings and fittings, and on other aging equipment installed when the pipe was originally installed. EVSP also has increased risk associated with pipe with unknown attributes or missing data, which includes unknown physical infrastructure (e.g., pipe material, pipe specifications, construction information), historical information (e.g., corrosion control records, maintenance records, leak records), and sufficient information to establish MAOP.

Ongoing analysis of EVSP continues to show this pipe has a greater likelihood to leak, have corrosion, and/or substandard pipe conditions. These segments of main and their associated service piping have an elevated risk of failure as validated by DIMP and TIMP risk analysis. The different subsets of EVSP include:

### **1. Pre-CNG Pipe**

Cascade operates pipeline segments that are classified as Pre-CNG pipe segments. Pre-CNG pipe segments are distribution systems that were constructed to distribute manufactured gas or natural gas. These pipelines were originally installed, owned,

operated, and maintained by others prior to 1955. Cascade acquired many of these systems in the late 1950s and throughout the 1960s. The pipe coating typically found on Pre-CNG pipe is typically bare steel or coal tar wrapped. This pipe is of concern since it is over 60 years old and operated with no or inadequate cathodic protection until the early 1970s, leaving the pipe suspect to elevated corrosion risk. Pre-CNG pipe also has elevated risks associated with missing data with not fully knowing the physical infrastructure and historical information of the Pre-CNG pipe. The extent of this pipe varies throughout Cascade's system and depends on the history of the system and how it was acquired by Cascade.

The total miles of Pre-CNG in Oregon is shown in the table below.

Total Miles of Pre-CNG Distribution Main & Service	39.04
Total Miles of Pre-CNG Transmission Main	0

2. FISH

Cascade operates pipeline segments that are classified as FISH pipe segments. FISH pipe segments are distribution systems that were installed by Fish Service & Management Corporation in the 1950s through the early 1960s. FISH pipe is normally coal tar wrapped. FISH pipe is of concern since it is around 60 years old and may have operated with no or inadequate cathodic protection until the early 1970s, leaving the pipe suspect to elevated corrosion risk. FISH pipe also tends to have an elevated likelihood to have leaks associated with material and welds. The extent of this pipe varies throughout Cascade's system and depends on the history of the system and how Cascade built out the system in the late 1950s and early 1960s. The total miles of FISH in Oregon is shown in the table below.

Total Miles of FISH Distribution Main & Service	22.04
Total Miles of FISH Transmission Main	0

3. Pre-1970

Cascade operates pipeline segments installed earlier than January 1, 1970, that are not classified as either Pre-CNG or FISH. These pipeline segments were originally installed by either Cascade employees or other contractors hired by Cascade. These pipeline segments are typically coal tar wrapped. This pipe is of concern due to its overall age and cathodic protection history since it may have had no or inadequate cathodic protection until the early 1970s, leaving the pipe suspect to corrosion risk. This pipe also has an elevated weld failure risk associated with leaks on vintage metal arc welds and acetylene gas welds. The total miles of Pre-1970 in Oregon is shown in the table below.

Total Miles of Pre-1970 Distribution Main & Service	373.36
Total Miles of Pre-1970 Transmission Main	4.12

## VII. Cascade's 2023 Safety Initiatives

To address the threats to Cascade's distribution system, Cascade engages in several safety initiatives. Cascade's safety activities can generally be separated into the following three categories:

1. Prescriptive Regulatory Initiatives – This refers to actions Cascade takes to comply with specific federal and state minimum safety standards.
2. Proactive, Performance-Based Actions – This refers to actions Cascade takes to comply with subjective rather than prescriptive federal and state minimum safety standards. Such standards require Cascade to develop and perform risk-based analytics, and to implement a plan for responding to identified risks.
3. Additional Prudent, Risk-Reduction Actions – This refers to Cascade's programs or activities that go above compliance to minimum safety standards and are engaged in to improve the public's safety.

Each safety activity category is described in further detail below:

### 1. Prescriptive Regulatory Actions

The most comprehensive regulations governing Cascade's distribution system is the Pipeline and Hazardous Materials Safety Administration's (PHMSA) Code of Federal Regulations (CFR), Title 49, Parts 190-199. 49 CFR Part 192, specifically Subparts I, L, and M, include multiple and broad prescriptive requirements related to the transportation of natural gas. These regulations require transporters of gas to inspect pipelines at regular intervals to confirm that the pipeline is meeting the operational requirements established in federal code. Compliance to these regulations provides Cascade with the baseline data for the proactive, performance-based actions. Prescriptive regulations are straight-forward guidelines on how to operate and maintain a pipeline. Compliance to prescriptive regulations does not require risk or cost-based analysis.

The prescriptive regulatory compliance work that Cascade will be performing in 2023 includes performing atmospheric corrosion surveys; monitoring cathodic protection performance; performing leak surveys; patrolling the system, performing preventative maintenance on valves, regulating stations, and large meters; odorizing natural gas received into Cascade's system, equipment calibration, control room management, and performing general system maintenance. Since this work is required, Cascade did not perform cost benefit analyses to determine if the work should be done, and alternatives to this work were not considered.

### 2. Proactive, Performance Based Actions

While certain sections of 49 CFR Part 192 tell the utility exactly what to do, compliance to other parts of 49 CFR Part 192 is more subjective. For instance, certain sections of 49 CFR Part 192 tell gas pipeline operators to identify existing and potential threats, evaluate and rank the risks, and implement measures to mitigate the highest risks. In response to the more subjective PHMSA regulations found in 49 CFR Part 192, Cascade has

developed programs focused on activities to mitigate pipeline safety risk. These programs include integrity management, public awareness, and damage prevention programs.

a. Integrity Management

Transmission Integrity Management Program (TIMP)

PHMSA rules required Cascade to create and implement a TIMP by December 17, 2004. The purpose of TIMP is to identify, prioritize, assess, evaluate, repair, and validate the integrity of transmission pipelines that could, in the event of a leak or failure, affect High Consequence Areas (HCA). The threats that are identified and evaluated in TIMP include:

- Corrosion (External, Internal, Stress Corrosion Cracking)
- Material
- Construction
- Equipment
- Excavation Damage
- Incorrect Operations
- Vandalism
- Weather and Outside Forces
- Cyclical Fatigue

Transmission integrity requirements are outlined in 49 CFR Part 192 Subpart O - Gas Transmission Pipeline Integrity Management. Cascade's TIMP Plan describes company specific risks and steps in greater detail.

TIMP activities include baseline assessments and reassessments of transmission lines using pressure testing, inline inspection, and other direct assessment methods. They also include pipeline replacements, relocations, and modifications in compliance with integrity management rules, and to mitigate identified threats.

Distribution Integrity Management Program (DIMP)

The requirement for Cascade to have a DIMP became effective on February 12, 2010. Operators were given until August 2, 2011, to write and implement a DIMP that demonstrates an understanding of the distribution system design and material characteristics; describes the operating conditions and environment; provides the maintenance and operating history; identifies existing and potential threats; evaluates and rank risks; identifies and implements measures to address risks; measures program performance; monitors results; evaluates effectiveness; and periodically assesses and improves the plan. The threats that are identified and evaluated in DIMP include:

- Corrosion
- Natural Forces

- Excavation Damage
- Other Outside Force Damage
- Material, Weld, or Joint Failure
- Equipment Failure
- Incorrect Operation
- Missing Data
- Other – Forces unique to a specific area on the system

Distribution Integrity requirements are outlined in 49 CFR Part 192 Subpart P - Gas Distribution Pipeline Integrity Management and Cascade's DIMP Plan describes company specific risks and steps in greater detail.

DIMP activities include risk-based projects warranting Accelerated Action (AA) to address system integrity risks. These AA's are made up of projects that have been identified through risk modeling, industry identified threats, and by Subject Matter Experts (SME's) within Cascade.

#### Analysis and Quantification

As part of Cascade's DIMP and TIMP Plans, a risk analysis has been created and is maintained. Information collected as part of DIMP and TIMP are inputted into the risk analysis, where it is analyzed to find areas of elevated risk and trends. This allows Cascade to quantify the risk associated with each pipeline segment based on factors that are pertinent to the integrity of the system.

#### Identification of Risk Management Actions

DIMP and TIMP risk analysis results and SME input are used to identify and prioritize risk management actions to address the threats and associated risk to Cascade's distribution systems. Risk management is accomplished by taking actions to reduce the likelihood of an occurrence, by alleviating the consequences of an occurrence or both. Appropriate actions are dependent on the group being addressed, the associated threat, whether the threat is current or potential in the future and the viability of the action in managing the relevant risk factors. Possible risk management actions include:

- Replacement of pipe, facilities, components, equipment
- GIS entry/data clean up
- Damage Prevention
- Public Awareness
- Leak Management
- Maintenance Programs
- Operator Qualification Program

### Obtaining New Information

Cascade obtains new information for DIMP and TIMP through the following methods:

1. Observing trending – DIMP and TIMP are analyzed on a yearly basis. The analysis includes reviewing leak information, failure analysis, and system condition data to identify trends. The analysis provides insight into the risks associated with pipe segments and facilities identified as having an elevated risk of failure.
2. New information is gathered through normal activities. Gathering new information from forms or other methods used to collect information related to the physical attributes and/or operating and maintenance activities. Integrating newly collected information into DIMP and TIMP.
3. SME panel meetings – SME panel meetings are held on an appropriate basis. Information from the panel meetings is used to validate the DIMP and TIMP risk analysis and new information is inputted into the DIMP and TIMP risk analysis.
4. Updating risk analysis – Cascade's DIMP and TIMP risk analysis is updated annually. Results of the risk analysis are used to prioritize risk management actions.
5. Continuous improvement – The assessment, prioritization, and mitigation of system risks continue to be refined as new and additional risk knowledge is incorporated into DIMP and TIMP through normal O&M and DIMP and TIMP activities. Activities related to DIMP and TIMP could include gathering data, conducting targeted inspections and assessments, and completing remediation and replacement work associated with integrity management driven programs.

Based on new information that is obtained, the integrity management activities may be modified appropriately to further accelerate or decelerate necessary risk management actions. Additionally, Cascade is actively monitoring system threats and performance and may identify additional pipeline segments and facilities that have an elevated risk of failure.

### 2023 Planned Integrity Management Activities

#### DIMP

In 2023, Cascade will continue to evaluate existing and new threats to its distribution system. In addition, Cascade will continue to complete required routine program requirements as outline in the DIMP plan and continue ongoing risk management actions. Any significant changes will be outlined in future updates.

#### TIMP

In 2023, Cascade will continue to evaluate existing and new threats to its transmission system. No integrity baseline or reassessments are scheduled to be

completed in 2023. In addition, Cascade will continue to complete required routine program requirements as outline in the TIMP plan. Any significant changes will be outlined in future updates.

b. Public Awareness and Damage Prevention

Public Awareness

In compliance with API RP 1162, Cascade's Public Awareness Program promotes, actively manages, and enhances the public's knowledge of pipeline safety, emergency responsiveness, and damage prevention. Listed below are the goals of Cascade's Public Awareness campaign:

- Increase the awareness of the identified stakeholder audiences to the presence of pipelines in their community and the role those pipelines play in transporting energy.
- Educate stakeholders that pipelines are a proven safe mode of natural gas transportation.
- Increase stakeholders' knowledge of the measures Cascade takes to prevent pipeline accidents.
- Improve stakeholders' understanding of the role they can play in helping to prevent pipeline accidents caused by third party damage and right-of-way encroachment.
- Develop programs that can be managed, implemented, and evaluated for continual improvement.

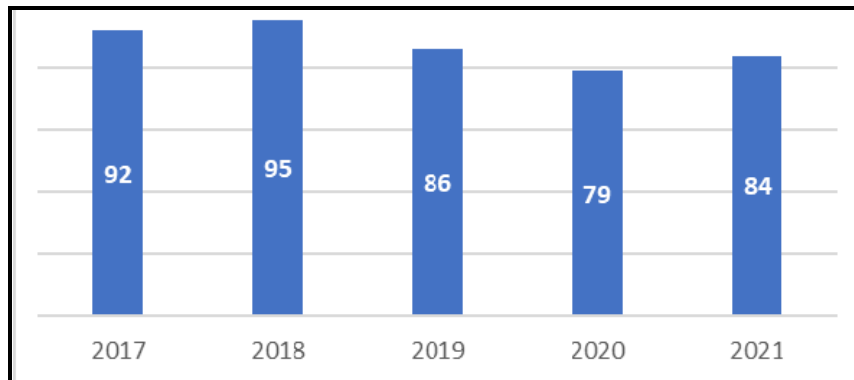
Damage Prevention

Cascade's Damage Prevention Program and Public Awareness activities play a vital role in preventing damage caused to Cascade's facilities by third party excavators—the highest threat to Cascade's distribution system. Cascade is fighting this threat by engaging other natural gas companies in a comprehensive public communication campaign known as the 811 or Call Before You Dig program. Cascade communicates, cooperates, and coordinates with government agencies, utilities, contractors, engineers, customers, and the general public through membership in the 811 one-call centers and through other communications, education, and awareness initiatives. The Damage Prevention Program seeks to achieve the following:

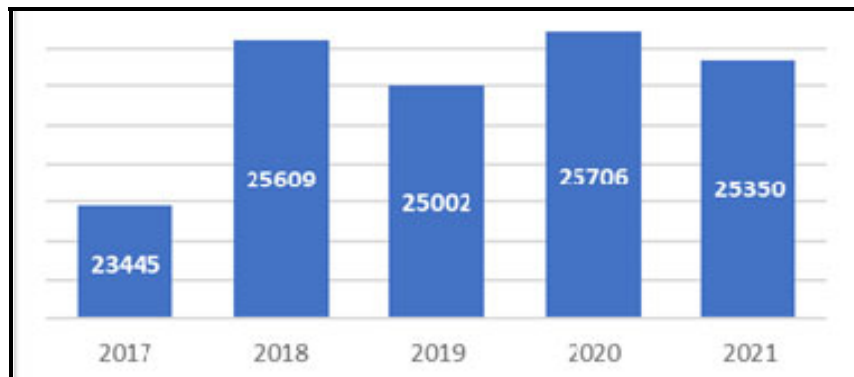
- Ensure the protection of the pipeline in each operating district through participation in a qualified One-Call Notification system.
- Locate and mark Cascade-owned or operated facilities per Company Procedures to prevent damage to buried facilities during excavation
- Maintain a means for informing potential excavators of the existence and purpose of the Cascade Damage Prevention Program.
- Inspect and examine pipelines that Cascade suspects may have been damaged by excavation activities.

- Report excavation damage in the appropriate reporting tools.
- Notify excavators of their responsibilities after an excavation damage event.
- Attend and actively participate in local utility coordinating councils in each district's service area.

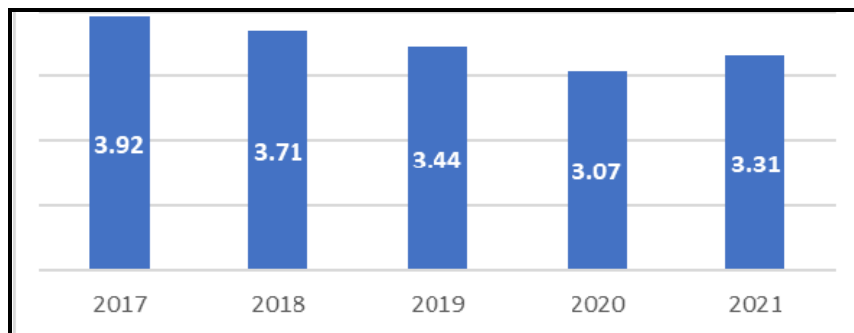
Figures 1, 2, and 3 below show Cascade's trend with pipeline damages, number of locate request, and damages per 1,000 locates in Oregon for 2017 - 2021.



**Figure 1: Total Damages**



**Figure 2: Locate Requests**



**Figure 3: Damage Rate Per 1,000 Locates**



Figures 4 and 5 show the 2021 annual damages by excavation cause category and excavator type.

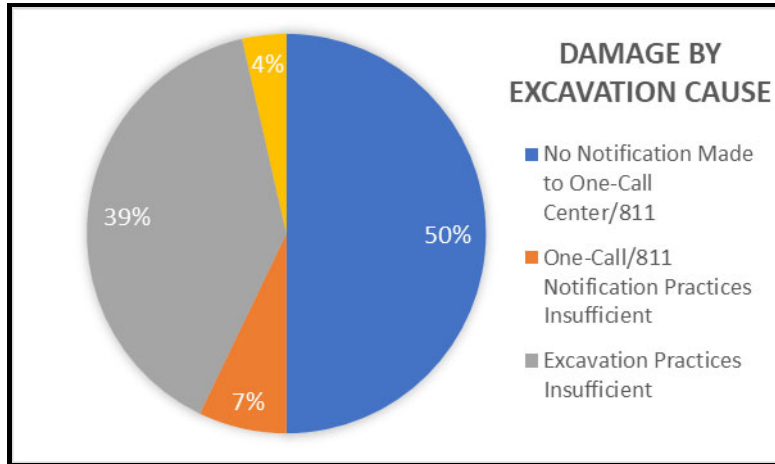


Figure 4: Damage by Excavation Cause

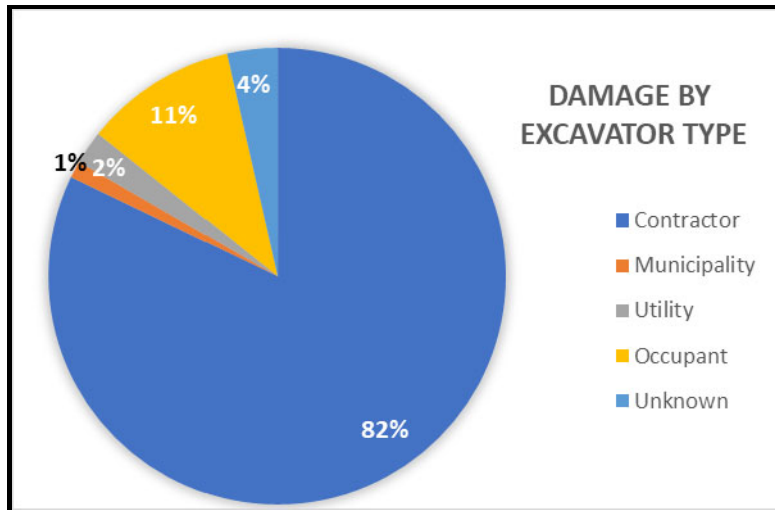


Figure 5: Damage by Excavator Type

2023 Planned Public Awareness and Damage Prevention Activities

Cascade’s Public Awareness and Damage Prevention activities are similar from year to year. Cascade’s involvement at community events varies each year as events scheduled change. Planned 2023 expenses for Public Awareness and Damage Prevention in Oregon include the following activities:

- Sending customers bill stuffers each month that feature a Public Awareness message. Examples of Cascade’s mailers are included in Appendix A.
- Running online banner advertisements, linked directly to Cascades Safety and Education Webpages.
- Sending a direct mailer on pipeline safety to a targeted audience – residences/businesses/schools located near transmission pipelines.

- Sending a direct mailer on pipeline safety to professional blasting contractors.
- Proving safety-related advertisements, staffing booths at community events, giving out promotional giveaways, and sponsoring local trainings.
- Filing complaints against professional excavators/contractors that are negligent of the Oregon Dig Law.
- Billing professional excavators/contractors that are negligent of the Oregon Dig Law.
- Completing a Line Locate Audit form when insufficient locate practices are identified.

Current enhancements currently being made to Cascade's Public Awareness and Damage Prevention programs for 2023 include:

- Cascade is in the process of implementing damage prevention software that assigns risk scores to incoming locate ticket requests. Based on the risk score, mitigation actions can be taken to help retroactively prevent damages before they occur. Software is in the process of being integrated and planned to be implemented in 2023.
- Excavators who submit an 811 locate ticket request will automatically receive an email communication from Cascade regarding safe digging and pipeline safety/emergency response.

### 3. Additional Prudent Risk Reduction Actions

Additional risk reduction activities are not required by federal code, but Cascade engages in them because they increase the public's safety and the safety of Cascade's distribution system. Below are the additional safety initiatives that Cascade is currently undertaking:

- Legacy Cross Bore Inspection

A legacy cross bore is when a natural gas line was installed utilizing a trenchless installation method and the line crossed and penetrated an undetected sewer line. This occurs if the sewer line wasn't located prior to the installation of the gas line and the gas line intersects through the sewer line during installation. The risk created by a legacy cross bore results when a sewer backs up and the homeowner or a plumber uses a sewer clearing device to clean out the sewer line without checking for a cross bore first. The clearing device is designed to cut through what is causing the blockage, which is also capable of cutting the gas line as well. Damage to the intersecting gas line can result in leak which can enter the sewer line and potentially into the home and neighboring homes.

To address this risk to Cascade's distribution system, Cascade has worked with a service provider to develop a probabilistic risk model to be able to identify and prioritize locations with the highest risk and likelihood for a legacy cross-bore to exist based on various data inputs.

- Main and Service Line Overbuilds

Customer installed encroachments or “overbuilds” interfere with the ability to safely operate Cascade’s distribution system. An overbuild situation typically occurs when a structure is installed over the top of an existing main or service line. Overbuilds prevent the ability to perform required maintenance activities such as leak survey. Overbuilds are not intended and is a deviation from normal operations, which result in an abnormal operating condition (AOC) and a violation of federal code.

Overbuilds present an increased risk to Cascade’s customers as well as an increased operational risk to Cascade’s employees. Risk associated with overbuilds include the potential for leaking gas to migrate into or become entrapped within the structure built over the line. Overbuilds also increase operating costs due to the need to return to the overbuild location multiple times to attempt and complete leak survey and other maintenance tasks.

Cascade continues to work to mitigate known overbuilds.

- Joint Utility Maximo Project (JUMP)

Maximo is a work and asset management system replacing fragmented operations systems into one centralized and integrated system. The Maximo project is divided into two primary phases.

- The first phase, which has been completed, included all maintenance and compliance work (includes procedure alignment) which includes: Equipment calibration, valve maintenance, pipeline patrols, regulator station / odorization / large meter / high pressure service set maintenance, leak survey, atmospheric corrosion, and corrosion maintenance.
- The second phase includes all construction activity and is scheduled to go live in 2025.

The implementation of JUMP will modernize and digitize the maintenance and construction activities at Cascade. This will improve operations through:

- Data driven compliance tracking.
- Accurate, timely, and verifiable field data collection.
- Improved and streamlined processes.
- Centralized data collection and reporting.

### VIII. 2022 Completed Capital Projects

Significant capital projects completed or scheduled to be completed in 2022 include:

PROJECT	DISTRICT	TYPE OF PIPE REPLACED, RISKS	ACTUAL / PLANNED IN-SERVICE DATE
2022 BEND EVSP REPLACEMENT	BEND	EVSP - IDENTIFIED HIGH (RED) RISK IN DIMP, CORROSION, AND LEAK HISTORY	NOVEMBER 2022
2022 BAKER CITY EVSP REPLACEMENT	EASTERN OREGON	EVSP - IDENTIFIED HIGH (RED) RISK IN DIMP, CORROSION, AND LEAK HISTORY	NOVEMBER 2022
SHORTED CASING REPLACEMENT	ALL	REPLACEMENT OF SHORTED CASINGS	VARIES
HIGH PRESSURE SERVICE SET (HPSS) REPLACEMENT	ALL	REPLACEMENT OF HIGH RISK HPSS'S, AGE AND OUTSIDE FORCE DAMAGE	VARIES
REPLACE 4" D.P. MAIN HWY 395 HERMISTON	PENDLETON	REPLACE POORLY COATED AND DIFFICULT TO INSPECT BRIDGE CROSSING, OUTSIDE FORCE DAMAGE	AUGUST 2022
MAIN/SERVICE LINE OVERBUILD REPLACEMENT	ALL	ELIMINATE EXISTING MAIN AND SERVICE LINES UNDER ENCROACHMENTS AND STRUCTURES	VARIES

### IX. 2023 Capital Budget

In 2023, Cascade estimates it will invest approximately \$5.36 million in capital to address integrity management concerns identified through DIMP, TIMP, Abnormal Operating Conditions (AOC's), or safety related conditions identified by SME's and local district personnel. Below are all 2023 capital projects for system safety with costs that are estimated to exceed \$100,000:

PROJECT	DISTRICT	TYPE OF PIPE TO BE REPLACED, RISKS	ESTIMATED COST
2023 SYSTEM SAFETY & INTEGRITY PROGRAM (SSIP) REPLACEMENT	BEND, EASTERN OREGON	EVSP REPLACEMENT - IDENTIFIED HIGH RISK IN DIMP	\$4,000,000
SHORTED CASING REPLACEMENT	ALL	REPLACEMENT OF SHORTED CASINGS	\$250,000
HIGH PRESSURE SERVICE SET (HPSS) REPLACEMENT	ALL	REPLACEMENT OF HIGH RISK HPSS'S, AGE AND OUTSIDE FORCE DAMAGE	\$240,000
REGULATOR STATION REPLACEMENT	ALL	REPLACEMENT OF REGULATOR STATION WITH SAFETY RELATED ISSUES, CORROSION, LEAKS, ETC.	\$200,000
REPLACE 500' OF 6" H.P. MAIN HWY 30 PENDLETON	PENDLETON	REPLACE DIFFICULT TO INSPECT BRIDGE CROSSING, OUTSIDE FORCE DAMAGE	\$400,000
REPLACE MILTON-FREEWATER GATE STATION	PENDLETON	REPLACE REGULATOR STATION LOCATED IN LOW SPOT AND SUBJECT TO FLOODING	\$270,000

## X. 2023 O&M Expenditures

Cascade's anticipated 2023 O&M budgets for DIMP, TIMP, Public Awareness, and Damage Prevention are listed below.

SAFETY INITIATIVES	ESTIMATED 2023 BUDGET
DIMP	\$250,000
TIMP	\$250,000
PUBLIC AWARENESS & DAMAGE PREVENTION	\$200,000

## XI. Cost Benefit Analyses

Cost benefit analysis and alternatives analysis is sometimes difficult in the context of regulated safety programs. Such an analysis has not been of major consideration in this plan because most of the safety projects are mandated by 49 CFR Part 192, industry best practices, or by engineering and operational requirements. The assigned risk and prioritization for implementing these projects are based on studies and analysis of Cascade's transmission and distribution systems. Studies are performed on a regular basis as part of normal operations. These studies and analysis identify potential threats and risks that can then be mitigated or eliminated by the application of best engineering practices, operational knowledge/experience along with the experience of SME's. The study analysis is used to identify and implement measures and plans to address potential threats and risks, which are then prioritized by projects or included in programs to most efficiently and effectively mitigate or eliminate the threat(s)/risk(s).

With programs and requirements prescribed in federal code such as DIMP and TIMP, the risk assessment analysis essentially acts as Cascade's cost benefit analyses for projects. If the analysis demonstrates a risk is significant, Cascade will invest in the costs to implement appropriate risk management actions. The value of public safety and human life is of significant consideration when reviewing potential threats. Cascade may consider alternative means for mitigating a threat, such as repairing a leak, damaged coatings, or corroded pipe rather than replacing the segment of the pipe, but usually, best practices or regulations for the specific circumstances dictate that solution.

## XII. Regulatory and Legislative Update

PHMSA currently has several active rulemaking proceedings that will result in the adoption of new rules which may have a direct impact on Cascade's current and future safety programs. Once any of these rule makings are published, Cascade will assess the full impact of the new or amended rules to determine its full impact. Cascade will then modify existing safety projects and look at development of additional safety projects to address the new mandated requirements. Below is an overview of PHMSA rulemakings that Cascade is closely tracking.

1. Docket No. PHMSA-2011-0023 – Safety of Gas Transmission and Gathering Pipelines (Transmission Mega Rule)

The Final Rule is a comprehensive update to the Transmission Integrity Management requirements and is the largest revision of the code since its inception in 1970. The rule was separated into three rulemakings.

- Part 1 of the rulemaking includes requirements around expansion of integrity management principles beyond HCAs, MAOP reconfirmation, material validation, record keeping, and changes to 49 CFR Part 192, Subpart O. PHMSA issued Part 1 on October 1, 2019.
- Part 2 of the rulemaking includes requirements around repair criteria, integrity management improvements, cathodic protection, management of change, and other related amendments. PHMSA issued Part 2 on August 24, 2022.
- Part 3 of the rulemaking includes requirements around gas gathering pipeline. PHMSA issued Part 3 on June 13, 2022.

2. Docket No. PHMSA-2021-0050 - PIPES 2020 Section 114, ADB-21-01

The PIPES Act of 2020 contained self-executing provisions requiring pipeline facility operators to update their inspection and maintenance plans to address the elimination of hazardous leaks and minimization of releases of natural gas (including, and not limited to, intentional venting during normal operations) from their systems.

3. Docket No. PHMSA-2013-0255 – Pipeline Safety: Valve Installation and Minimum Rupture Detection Standards

Revise the Federal Pipeline Safety Regulations applicable to newly constructed and entirely replaced onshore natural gas transmission and hazardous liquid pipelines to mitigate ruptures. Additionally, PHMSA is revising the regulations regarding rupture detection to shorten pipeline segment isolation times. These proposals address congressional mandates, incorporate recommendations from the National Transportation Safety Board, and are necessary to reduce the consequences of large-volume, uncontrolled releases of natural gas and hazardous liquid pipeline ruptures.

### **XIII. Significant Changes to Cascade's Safety Programs**

Cascade continues to monitor PHMSA rulemakings and assess the changes Cascade will need to make to comply with newly adopted rules. Cascade is expecting to see some changes to some of the existing safety programs in 2023 due to new regulatory requirements. Changes as a result of new regulatory requirements are tracked and managed through Cascade's MOC process.

**APPENDIX A**  
**Public Awareness and Damage Prevention Information**

Underground, natural gas pipelines are located on your property and within the communities you live, work, and play. For your safety, please review this information and share with other members of your household/business.

### Pipeline Safety and Reliability

Cascade is committed to delivering natural gas through a highly engineered pipeline system in a safe, environmentally sound process. Natural gas pipelines are the safest method of energy transportation, according to National Transportation Safety Board statistics. Cascade uses the latest technology, security, and industry practices to monitor pipelines, and maintain service and safety. We execute many programs to ensure your safety: 24/7 design and construction monitoring; integrity management; inspection and patrol; public safety outreach; and communication/training with emergency officials.

### Suspect a Gas Leak?



**Do you SEE?**

A patch of discolored soil or dead vegetation, dirt being blown into the air, water bubbling or spraying into the air, fire or explosion.



**Do you HEAR?**

Unusual noises or a hissing sound.



**Do you SMELL?**

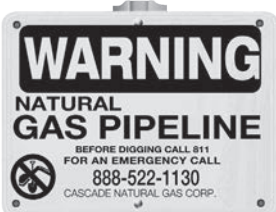
A strange odor similar to rotten eggs or a recently lit match.

If you suspect a natural gas leak, leave the area immediately. Do not use a cell phone or start a vehicle near any suspected natural gas leak. If leaking gas ignites, do not attempt to put out the flames.

**Call 911 and then Cascade Natural Gas.  
Emergency Line: 888-522-1130**

### Pipeline Markers

Pipeline markers are used to show the general route of a pipeline, but are not found near every pipeline.



#### Show:

- Approximate location
- Product transported
- Operator's name and emergency phone number

#### Do Not Show:

- Exact location
- Depth
- Number of pipelines

For more information on pipeline locations in your area, please go to [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov).

### STEPS FOR SAFE DIGGING

**1**

**Whiteline Dig Site**



**2**

**Call 811 to Locate Utilities**



**3**

**Wait for All Utilities to be Marked**



**4**

**Carefully Hand Dig Around Marked Utilities**



If you damage a natural gas line and there is blowing gas, leave the area, call 911, and then call Cascade Natural Gas.

Report ALL damaged natural gas lines, including damage to the coated wire paralleling the gas line, to Cascade, even if there is no blowing gas. Minor nicks and wrap damage to the gas line, or damage to the wire, can be dangerous if left unrepaired.

### Right-of-Ways

Pipeline right-of-ways or easements are strips of land in which pipelines are installed. Certain land uses are prohibited on a right-of-way or require permission from Cascade Natural Gas.



Las tuberías subterráneas de gas natural se encuentran en su propiedad y dentro de las comunidades donde vive, trabaja y juega. Para su seguridad, revise esta información y compártala con otros miembros de su hogar / negocio.

### TUBERÍA DE SEGURIDAD Y CONFIABILIDAD

Cascade se compromete a suministrar gas natural a través de un sistema de tuberías altamente diseñado en un proceso seguro y ambientalmente racional. Los gasoductos de gas natural son el método más seguro de transporte de energía, según las estadísticas de la Junta Nacional de Seguridad en el Transporte. Cascade utiliza las últimas prácticas tecnológicas, de seguridad y de la industria para supervisar las tuberías y mantener el servicio y la seguridad. Cascade ejecuta muchos programas para garantizar su seguridad: Monitoreo de diseño y construcción las 24 horas del día, los 7 días de la semana; gestión de la integridad; inspección y patrulla; la divulgación de la seguridad pública; y comunicación/formación con funcionarios de emergencia.

### ¿Sospecha una fuga de gas?



Do you SEE?

Un parche de tierra decolorada o vegetación muerta, la suciedad sopla en el aire, el agua burbujeando o rociando en el aire, el fuego o la explosión.



Do you HEAR?

Ruidos inusuales o un silbido.



Do you SMELL?

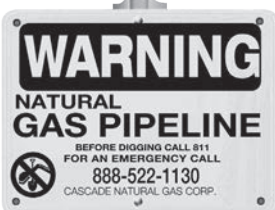
Un olor extraño similar a los huevos podridos o a un encendedor recientemente iluminado.

Si sospecha que hay una fuga de gas natural, abandone el área inmediatamente. No utilice un teléfono celular ni encienda un vehículo cerca de cualquier sospecha de fuga de gas natural. Si se enciende la fuga de gas, no intente apagar las llamas. Llame al 911 y luego a Cascade Natural Gas.

**Llame al 911 y luego a Cascade Gas Natural.**  
**LÍNEA DE EMERGENCIA: 888-522-1130**

### MARCADORES DE TUBERÍAS

Los marcadores de tuberías se utilizan para mostrar la ruta general de un oleoducto, pero no se encuentran cerca de cada oleoducto.



#### MOSTRAR:

- La ubicación aproximada
- El producto transportado
- Nombre del operador y número de teléfono de emergencia.

#### NO MOSTRAR:

- La ubicación exacta
- La profundidad
- El número de tuberías

Para obtener más información sobre las ubicaciones de tuberías en su área, vaya a [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov)

### GUÍA PARA EXCAVAR SEGURO

1

**Línea Blanca Área de Excavar**



2

**Llame 811 para Localizar**



3

**Espere a que se Marquen Todas las Utilidades**



4

**Excave cuidadosamente a mano alrededor de los servicios públicos marcados**



Si daña una línea de gas natural y hay gas soplado, salga de la zona, llame al 911 y luego a Cascade. Reporte TODAS las líneas de gas natural dañadas, incluido el daño al cable de recubierto paralelo a la línea de gas, a Cascade, incluso si no hay gas de soplado. Los pequeños cortes y daños en la envoltura de la línea de gas, o daños en el cable, pueden ser peligrosos si no se reparan.

06/2021

### DERECHO-DE-VÍAS

El derecho de vía o servidumbre de las tuberías son franjas de tierra en las que se instalan las tuberías. Ciertos usos de la tierra están prohibidos en un derecho de vía o requieren permiso de Cascade Natural Gas.

Our goal is to provide safe, reliable natural gas service to our customers and ensure the safety of people living and working near our natural gas pipelines. For your safety, please review this information and share with other members of your household/business.



*In the Community to Serve®*

www.cngc.com



# Pipeline Safety Information

Questions or concerns?

888-522-1130 | awareness@cngc.com



**Know what's below.  
Call before you dig.**

## Reasons to Call 811 Before You Dig and to Hand Dig Around Marked Utility Lines:

1. It's free. It's easy. It's the law.
2. It keeps you, your family, and your neighbors safe.
3. It keeps utility workers and emergency responders safe from having to respond to an accident if you damage a utility line.
4. There are millions of utility lines buried underground that bring vital services to the homes, schools, and businesses throughout your community (think natural gas, electricity, water, cable, fiber, etc.)
5. Damaging a utility line can cause service interruptions and cut off vital services in your area.
6. If you damage a utility line it may result in a large repair bill from the utility company.

## When should you call 811?

Anytime you are "displacing earth." Including but not limited to; installing a fence, planting a tree/bush, pulling up tree roots, grading work, putting stakes in the ground for concrete work or temporary power, installing a mailbox or sign post.

## Who should call 811?

Anyone who will be digging or displacing earth.

## What should you do if you damage a natural gas line?

Leave the area, call 911, and then call Cascade Natural Gas. Report ALL damaged natural gas lines, including damage to the coated wire paralleling the gas line, to Cascade, even if there is no blowing gas. Minor nicks and wrap damage to the gas line, or damage to the coated wire, can be dangerous if left unrepaired.

## Pipeline Safety and Reliability

Cascade Natural Gas is committed to delivering natural gas through a highly engineered pipeline system in a safe, environmentally sound process to meet your energy needs. Cascade uses the latest technology, security, and industry practices to monitor pipelines, and maintain service and safety. We execute many programs to ensure your safety; 24/7 design and construction monitoring, integrity management, inspection and patrol, public safety outreach, and communication/training with emergency officials.



Scratch this flame with your fingernail and sniff the gas odor.

The odor you smell is the harmless chemical we add to natural gas so you can detect a gas leak.

## Learn How to Recognize a Natural Gas Leak



Do you SEE?

A patch of discolored soil or dead vegetation, dirt being blown into the air, water bubbling or spraying into the air, fire or explosion.



Do you HEAR?

Unusual noises or a hissing sound.



Do you SMELL?

A strange odor similar to rotten eggs or a recently lit match.

If you suspect a natural gas leak, leave the area immediately.

**Call 911 and then Cascade Natural Gas at 888-522-1130.**

Leaking gas is dangerous. It can cause fire or explosion. Do not use a cell phone, flip switches, or start a vehicle near any suspected natural gas leak. If leaking gas ignites, do not attempt to put out the flames.

## Carbon Monoxide Poisoning

**What is it?** It is an odorless, colorless, tasteless and toxic gas. Breathing too much carbon monoxide (CO) deprives the body of oxygen and may cause immediate physical danger and even death.

**How is it caused?** Incomplete combustion by fuel, appliances and vehicles running in garages.

**What are the symptoms?** Symptoms can include dizziness, nausea, tightness in chest, headache and fatigue. Flu-like symptoms without the fever.

**What should you do?** If symptoms are severe, move victim into fresh air immediately and call 911 for medical assistance. Evacuate the structure until the cause of carbon monoxide is determined and eliminated.

**How do you prevent it?** Never block or close a source of air to a heat producing appliance. Never use a gas range/oven to heat your home. Never operate a car in an enclosed area, such as the garage. Install carbon monoxide detectors in your home and follow manufacturer recommendations for maintenance of your heating appliances.

## Pipeline Markers Show:

- Approximate location
- Product Transported
- Operator's name and emergency phone number



For more information on pipeline locations in your area, please go to [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov).

Nuestro objetivo es proporcionar un servicio de gas natural seguro y confiable a nuestros clientes y garantizar la seguridad de las personas que viven y trabajan cerca de nuestros gasoductos de gas natural. Por su seguridad, revise esta información y compártala con otros miembros de su hogar/negocio.



In the Community to Serve®

www.cngc.com



# ¡Información de seguridad de tubería!

¿Preguntas o preocupaciones?

888-522-1130 | awareness@cngc.com



Entérese de lo que hay enterrado.  
**Llame al 811 antes de excavar.**

**Razones para llamar al 811 antes de excavar y a mano de excavación alrededor de líneas de utilidad marcadas:**

1. Es gratis. Es fácil. Es la ley.
2. Te mantiene a ti, a tu familia y a tus vecinos a salvo.
3. Mantiene a los trabajadores de servicios públicos y a los servicios de emergencia a salvo de tener que responder a un accidente si daña una línea de servicios públicos.
4. Hay millones de líneas de servicios públicos enterradas bajo tierra que traen servicios vitales a los hogares, escuelas y negocios en toda su comunidad (piense en gas natural, electricidad, agua, cable, fibra, etc.)
5. Dañar una línea de servicios públicos puede causar interrupciones del servicio y cortar servicios vitales en su área.
6. Si daña una línea de servicios públicos, puede resultar en una factura de reparación grande de la compañía de servicios públicos.

## ¿Cuándo debería llamar al 811?

Cada vez que estás "desplazando la tierra". Incluyendo pero no limitado a; la instalación de una valla, la plantación de un árbol / arbusto, tirar de las raíces de los árboles, el trabajo de clasificación, la colocación de estacas en el suelo para trabajos de hormigón o energía temporal, la instalación de un buzón de correo o poste de señalización.

## ¿Quién debe llamar al 811?

Cualquiera que esté cavando o desplazando la tierra.

## ¿Qué debe hacer si daña una línea de gas natural?

Salga del área, llame al 911 y luego llame a Cascade Natural Gas. Reporte TODAS las líneas de gas natural dañadas, incluidos los daños en el cable recubierto que paralelo a la línea de gas, a Cascade, incluso si no hay gas soplado. Los golpes menores y los daños en la envoltura a la línea de gas, o los daños en el alambre recubierto, pueden ser peligrosos si no se reparan.

## Seguridad y fiabilidad de las tuberías

Cascade Natural Gas se compromete a suministrar gas natural a través de un sistema de tuberías altamente diseñado en un proceso seguro y ambientalmente racional para satisfacer sus necesidades energéticas. Cascade utiliza las últimas tecnologías, seguridad y prácticas de la industria para supervisar las tuberías y mantener el servicio y la seguridad. Ejecutamos muchos programas para garantizar su seguridad; monitoreo 24/7 de diseño y construcción, gestión de la integridad, inspección y patrulla, divulgación de seguridad pública y comunicación/entrenamiento con funcionarios de emergencia.

Al otro lado rasguñe la llama con su uña y huela el olor de gas

El olor que usted hule son químicas inofensivas que añadimos al gas natural para que pueda detectar una fuga de gas.

## Aprenda a reconocer una fuga de gas natural



¿lo ves?

Un parche de tierra decolorada o vegetación muerta, la suciedad sopla en el aire, el agua burbujando o rociando en el aire, el fuego o la explosión.



¿tu escuchas?

Ruidos inusuales o un silbido.



¿huelas?

Un olor extraño similar a los huevos podridos o a un encendedor recientemente iluminado.

Si sospecha que hay una fuga de gas natural, abandone el área inmediatamente.

**Llame al 911 y luego a Cascade Natural Gas al 888-522-1130.**

La fuga de gas es peligrosa. Puede causar un incendio o una explosión. No utilice un teléfono celular, interruptores de volteo ni inicie un vehículo cerca de cualquier sospecha de fuga de gas natural. Si se enciende gas con fugas, no intente apagar las llamas.

## Intoxicación por monóxido de carbono

**¿Qué es?** Es un gas inodoro, incoloro, insípido y tóxico. Respirar demasiado monóxido de carbono (CO) priva al cuerpo de oxígeno y puede causar peligro físico inmediato e incluso la muerte.

**¿Cómo se causa?** Combustión incompleta por combustible, electrodomésticos y vehículos que se ejecutan en garajes.

**¿Cuáles son los síntomas?** Los síntomas pueden incluir mareos, náuseas, opresión en el pecho, dolor de cabeza y fatiga. Síntomas similares a los de la gripe sin fiebre.

**¿Qué deberías hacer?** Si los síntomas son graves, mueva a la víctima al aire libre inmediatamente y llame al 911 para obtener asistencia médica. Evacuar la estructura hasta que se determine y elimine la causa del monóxido de carbono.

**¿Cómo lo previenes?** Nunca bloquee ni cierre una fuente de aire a un aparato de producción de calor. Nunca use una gama de gas /horno para calentar su hogar. Nunca opere un coche en un área cerrada, como el garaje. Instale detectores de monóxido de carbono en su hogar y siga las recomendaciones del fabricante para el mantenimiento de sus aparatos de calefacción.

## Marcadores de tuberías Mostrar:

- Ubicación aproximada
- Producto transportado
- Nombre del operador y número de teléfono de emergencia

Para obtener más información sobre las ubicaciones de tuberías en su área, vaya a [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov).





## STEPS FOR SAFE DIGGING

1

Whiteline  
Dig Site



2

Call 811  
to Locate  
Utilities



3

Wait for  
All Utilities to  
be Marked



4

Dig Safe  
Using Proven  
Excavation  
Methods



For more information on safe digging refer to  
CGA Best Practices at [commongroundalliance.com](http://commongroundalliance.com).



# Underground Utilities are Everywhere

Call **811** before you dig.

IT'S FREE. IT'S EASY. IT'S THE LAW.



*In the Community to Serve®*

[www.cngc.com](http://www.cngc.com) | 888-522-1130



*In the Community to Serve®*

# DIG SAFE AROUND UTILITIES



Call **811** before you dig.

Protect yourself, coworkers,  
and the public.

# DIGGING SAFELY IS A SHARED RESPONSIBILITY

Cascade Natural Gas offers FREE contractor/excavator training.

Contact us to schedule your FREE training. awareness@cngc.com

Customer Service/Emergency: 888-522-1130

Get more information and view a schedule of classes at [www.cngc.com/free-training](http://www.cngc.com/free-training).

Cascade is committed to keeping you safe by reducing excavation damage to underground natural gas lines through education and awareness. Always call **811** before you dig to get your utility lines located, and dig safely using proven excavation methods.

Please refer to your state's Dig Law for more information.



# FOLLOW THESE SIMPLE STEPS

- Outline/mark your planned dig site in white paint.
- Call 811 or visit [www.Call811.com](http://www.Call811.com) two business days before you plan to dig to have underground utility lines marked for free.
- If you are a subcontractor, protect yourself and your company by calling 811 for a locate ticket. The general contractor's ticket does not apply to anyone except them.
- Wait for all utility companies listed on the ticket to mark their utility lines before digging.
- Maintain the locate marks throughout the lifetime of the project.
- There is a tolerance zone on either side of the locate marks. Carefully hand dig within the tolerance zone and determine the exact location of the utility before proceeding.
- Use acceptable backfill (such as sand or rock-free dirt) and proper compaction to avoid damage to utility lines.
- Stop digging immediately if you find unmarked natural gas lines and call 811 to have them marked.
- If there is a release of natural gas, leave the area and call 911. Then, call Cascade and keep others clear of the area.
- Never try to fix a damaged natural gas line or try to restrict the gas flow in any way.
- Call Cascade to report all damaged natural gas lines - even if there is no blowing gas. Minor nicks and wrap damage can be dangerous if left unrepaired.

# UTILITY COLOR CODES

All utilities will mark the location and path of their underground facilities using the following colors:

**WHITE:** Proposed Excavation

**FLUORESCENT PINK:** Temporary Survey Markings

**RED:** Electric Power Lines, Cables, Conduit and Lighting Cables

**YELLOW:** Gas, Oil, Steam, Petroleum or Gaseous Materials

**ORANGE:** Communication, Alarm or Signal Lines, Cables or Conduit

**BLUE:** Potable Water

**PURPLE:** Reclaimed Water, Irrigation and Slurry Lines

**GREEN:** Sewers and Drain Lines



## GUÍA PARA EXCAVAR SEGURO

1

Línea Blanca Área de Excavar



2

Llame 811 para Localizar



3

Espere a que se Marquen Todas las Utilidades

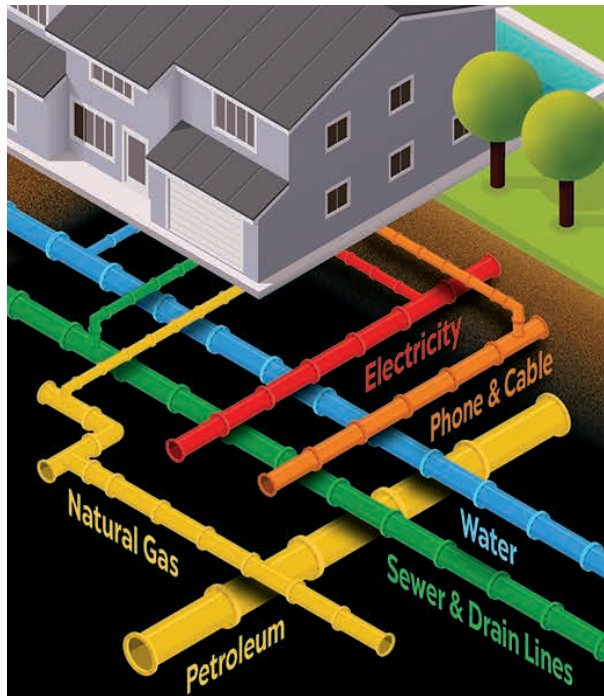


4

Excavar a salvo Usando probado Excavación Métodos



Para obtener más información sobre la excavación segura, consulte Mejores prácticas de CGA en [commongroundalliance.com](http://commongroundalliance.com).



Los servicios públicos subterráneos están en todas partes.



Entérese de lo que hay enterrado. Llame al 811 antes de excavar.

ES GRATIS. ES FÁCIL. ES LA LEY.



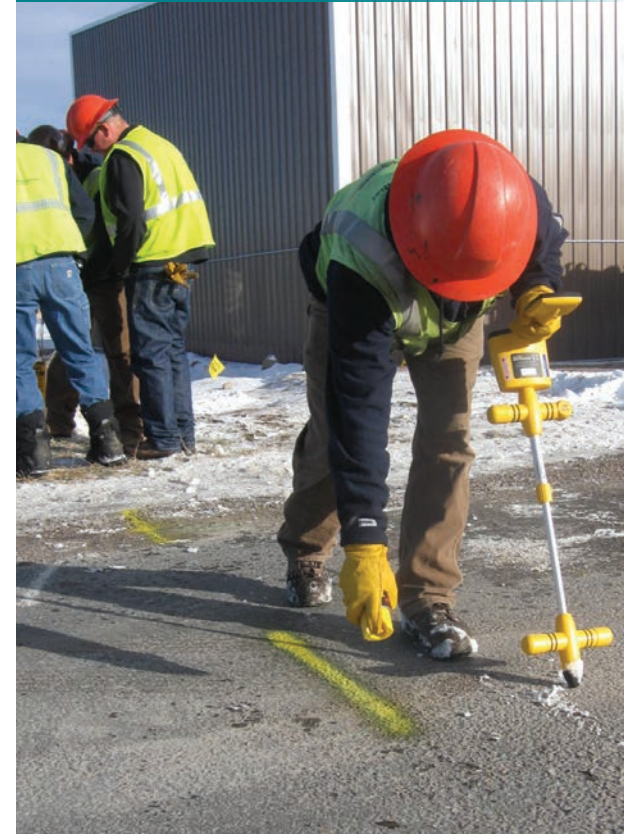
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*In the Community to Serve®*

ESCAVAR SEGURO ALREDEDOR DE LOS SERVICIOS PÚBLICOS.



Entérese de lo que hay enterrado. Llame al 811 antes de excavar.

Protéjase a sí mismo, a sus compañeros de trabajo y al público.

# ESCAVAR CON SEGURIDAD ES RESPONSABILIDAD COMPARTIDA

Cascade Natural Gas ofrece GRATIS contratistas/entrenamiento del excavador.

Contacte para preguntas o para programar GRATIS entrenamiento  
awareness@cngc.com

Servicio al cliente/Emergencia: 888-522-1130

Obtenga más información y vea un horario de clases en [www.cngc.com/free-training](http://www.cngc.com/free-training).

Cascade Natural Gas se compromete para mantenerlo seguro reduciendo el daño de excavación a instalaciones subterráneas a través de la educación y la concienciación. Siempre llame **811** antes de escavar para obtener sus líneas de servicios públicos ubicados y escavar con seguridad utilizando métodos de excavación probados.

Por favor, consulte la ley de excavación de su estado para obtener más información.



# SIGA ESTOS SENCILLOS PASOS

- Esbozar/marcar su sitio de excavación planeado en pintura blanca.
- Llame al 811 o visite [www.Call811.com](http://www.Call811.com) dos días de negocio hábiles antes de que planee cavar para tener líneas de servicios públicos subterráneas marcadas de forma gratuita.
- Si usted es un subcontratista, protéjase a sí mismo y a su empresa llamando al 811 para obtener un boleto de localización. El boleto del contratista general no se aplica a nadie excepto a ellos.
- Espere a que todas las empresas de servicios públicos que aparecen en el boleto marquen sus líneas de servicios públicos antes de escavar.
- Mantener las marcas de localización durante toda la vida útil del proyecto.
- Hay una zona de tolerancia a ambos lados de las marcas de localización. Profundice cuidadosamente dentro de la zona de tolerancia y determine la ubicación exacta de la utilidad antes de continuar.
- Utilice relleno aceptable (como arena o suciedad libre de rocas) y una compactación adecuada para evitar daños en las líneas de servicios públicos.
- Deje de escavar inmediatamente si encuentra líneas de gas natural sin marcar y llame al 811 para que las marquen.
- Si hay una liberación de gas natural, salga de la zona y llame al 911. Luego, llama a Cascade y mantén a otros alejados del área.
- Nunca intente fijar una línea de gas natural dañada ni intente restringir el flujo de gas de ninguna manera.
- Llame a Cascade para informar de todas las líneas de gas natural dañadas, incluso si no hay gas que sopla. Los golpes menores y el daño envolver pueden ser peligrosos si no se reparan.

# CÓDIGOS DE COLOR DE UTILIDAD

Todos los servicios públicos marcarán la ubicación y la ruta de sus instalaciones subterráneas utilizando los siguientes códigos:

**BLANCO:** Excavación Propuesta

**ROSA:** Marcación de Inspección Temporal

**ROJO:** Líneas de Transmisión Eléctricas

**AMARILLO:** Gas, Oil, Steam, Petroleum or Gaseous Materials

**ORANGE:** Gas, Vapor, Petroleo, Químicos

**AZUL:** Agua Potable

**MORADO:** Agua Regenerada

**VERDE:** Alcantarillas, Lineas de Drenaje



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8113 W Grandridge Blvd  
Kennewick, WA 99336







**May 10, 2021**

*In the Community to Serve®*

**Dear Valued Community Member,**

You are receiving this letter because a high pressure, underground, natural gas pipeline is located on or near your property. For your safety, please review this information and share with other members of your household/business.

Third party damage is a high risk to our pipeline and our community. Please help us keep our pipelines safe by contacting 811 and carefully hand digging around marked utility lines.

**Reasons to Call 811 Before You Dig and to Hand Dig Around Marked Utility Lines:**

1. It's free. It's easy. It's the law.
2. It keeps you, your family, and your neighbors safe.
3. It keeps utility workers and emergency responders safe from having to respond to an accident if you damage a utility line.
4. There are millions of utility lines buried underground that bring vital services to the homes, schools, and businesses throughout your community (think natural gas, electricity, water, cable).
5. Damaging a utility line can cause service interruptions and cut off vital services in your area.
6. If you damage a utility line it may result in a large repair bill from the utility company.

**When should you call 811?**

Anytime you are "displacing earth." Including but not limited to installing a fence, planting a tree/bush, pulling up tree roots, grading work, putting stakes in the ground for concrete work or temporary power, installing a mailbox or signpost.

**Who should call 811?**

Anyone who will be digging or displacing earth.

**What should you do if you damage a natural gas line?**

Leave the area, call 911, and then call Cascade Natural Gas 888-522-1130. Report ALL damaged natural gas lines, including damage to the coated wire paralleling the gas line, to Cascade, even if there is no blowing gas. Minor nicks and wrap damage to the gas line, or damage to the coated wire, can be dangerous if left unrepaired.

**If you would like more details about the safety information, please contact us:**

**Customer Service/Emergency 888-522-1130 | [www.cngc.com](http://www.cngc.com) | [awareness@cngc.com](mailto:awareness@cngc.com)**

Esta información está disponible en español en nuestro sitio web [www.cngc.com/es/](http://www.cngc.com/es/)

**Take a short survey to help us improve our pipeline safety outreach.**

Go to [www.surveymonkey.com/r/cngcsafety](http://www.surveymonkey.com/r/cngcsafety) or scan QR code with smartphone camera.

Thank You,



**Public Awareness & Damage Prevention Team**

Cascade Natural Gas Corporation

*A Subsidiary of MDU Resources Group, Inc.*



*In the Community to Serve®*

May 10, 2021

**To Whom it May Concern,**

Cascade Natural Gas Corporation (CNGC) is sending this letter to all Blasting Contractors to communicate public safety information to improve worker and community safety.

**If your company or subcontractors will be blasting in the vicinity of a CNGC pipeline, please:**

- Contact our customer service center as soon as possible if you will be blasting within 100' (for standard blasting) or 500' (for large scale blasting) of any CNGC pipeline.
- To ensure your project is not delayed, we need adequate time to gather data and perform a risk analysis.
- Vibration limits on our pipelines = max peak particle velocity of 5 inches per second.
- The risks associated with blasting near utility lines without contacting your local utility company and following safe blasting practices could possibly include: property damage, financial loss, service outages, injury, or fatality.

Cascade's number one goal is to protect you, your employees, and the community from the risks associated with damaging a pipeline during excavation/blasting. Cascade is here to help you through your blasting project and we thank you for your partnership.

Together we can reduce damages and improve safety through communication, collaboration, and education.

**If you will be blasting near our pipeline or have any questions, please contact us:  
Customer Service/Emergency 888-522-1130 | [www.cngc.com](http://www.cngc.com) | [awareness@cngc.com](mailto:awareness@cngc.com)**

Thank you,

**Public Awareness & Damage Prevention Team**  
Cascade Natural Gas Corporation  
*A Subsidiary of MDU Resources Group, Inc.*

**Know what's below.  
Call  before you dig.**



Know what's below.  
Call before you dig.

## EMERGENCY RESPONSE NEWSLETTER

### Promoting Safety In Our Communities

2020 EDITION

The purpose of this newsletter is to aid Emergency Response Organizations in responding to natural gas emergencies by providing necessary information and resources available to you from Cascade Natural Gas.

In this Edition:

- Local District Contacts for Cascade
- Local Natural Gas Training Opportunities
- Accessing Cascades Emergency Response Plans
- National Pipeline Mapping System Information
- Updating Emergency Response Capabilities
- Preventing Additional Consequences During Emergency Response



### CONTACT INFORMATION

### LOCAL TRAINING

**District Operations Manager:** Marcus McCloskey  
P: 541-706-6290 Email: [marcus.mccloskey@cngc.com](mailto:marcus.mccloskey@cngc.com)

**District Operations Manager:** Joshua Aigner  
P: 541-706-6281 Email: [joshua.aigner@cngc.com](mailto:joshua.aigner@cngc.com)

**Public Awareness Coordinator:** Lynsay Demko  
P: 509-734-4584 Email: [awareness@cngc.com](mailto:awareness@cngc.com)

**EMERGENCY NUMBER: 888-522-1130**

**[WWW.CNGC.COM/SAFETY-EDUCATION/](http://WWW.CNGC.COM/SAFETY-EDUCATION/)**

Cascade Natural Gas offers local, on site training to discuss emergency response and natural gas safety for emergency response organizations, as well as training resources and materials.

Contact Cascade's local district office or use the link below to set up a **free** training or to receive additional materials for your organization. [www.cngc.com/free-training](http://www.cngc.com/free-training)

### LOCAL EMERGENCY RESPONSE PLANS

Cascade has up-to-date local emergency plans. To obtain information on our emergency plans, please contact district management. One of the most effective ways to pre-plan a coordinated response is to meet in person and exchange vital information before an incident occurs. Please contact us so we can have a proactive conversation concerning our coordinated emergency response and address any concerns or questions that your organization may have.

Cascade Natural Gas looks forward to forming a partnership with your organization to improve the effectiveness of our coordinated response to natural gas emergencies.

**In the event of an actual emergency, please call our EMERGENCY NUMBER: 888-522-1130.**

## UPDATING CAPABILITIES

The Pipeline Association for Public Awareness (PAPA) maintains an Emergency Response Capabilities Database and Reporting Tool that was developed to enhance emergency preparedness and response planning in communities with pipeline infrastructure.

We ask that your organization update its capabilities as often as necessary to keep them accurate.

Go to [www.pipelineawareness.org/stakeholder-resources/emergency-response-capabilities/](http://www.pipelineawareness.org/stakeholder-resources/emergency-response-capabilities/) and click “Access the emergency response capabilities application”.

Here you can view capabilities by organization or by location. If you have changes or need to add your organization to the database you can do so in the “add/edit capabilities” tab.

You can also search by location to find out all of the capabilities the natural gas operators in your area have available.

## PIPELINE MAPPING APPLICATION

The National Pipeline Mapping System (NPMS) Pipeline Information Management and Mapping Application (PIMMA) is a web-based mapping application designed to assist federal, state and local government officials and pipeline operators with displaying and querying data related to gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks.

To see what pipelines are located in your area, visit the National Pipeline Mapping System at [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov).

Login to an existing account or apply for PIMMA access to see what transmission pipelines are located in your community. Please note that this application does not contain distribution or gas gathering pipelines.

For a more comprehensive understanding of pipelines in your territory, please contact Cascade District Management directly.

## PREVENTING ADDITIONAL CONSEQUENCES DURING EMERGENCY RESPONSE

PHMSA’s Accident Investigation Division (AID) produces a quarterly “SAFE” bulletin that discusses incident lessons learned.

In 2019 PHMSA released a SAFE Bulletin on the Potential for Fatalities and Injuries During Emergency Response Operations that focuses on preventing additional consequences during emergency response operations. It also highlights the importance of evacuation timeliness and understanding the potential of migrating natural gas. **See bulletin on next page.**

The table on the right has recommended evacuation distances for natural gas pipeline leaks and ruptures. It can be found in the Pipeline Emergency Response Guidelines at the website below.

For more resources, visit [www.pipelineawareness.org/](http://www.pipelineawareness.org/) or contact Cascade Natural Gas.

### Recommended Minimum Evacuation Distances For Natural Gas Pipeline Leaks and Ruptures

*(Not applicable for Butane, Propane, or other Hazardous Liquids)*

		Pipeline Size (Inches)									
		4	6	8	10	12	16	20	22	24	30
Pressure (psig)	100	91	137	182	228	274	365	456	502	547	684
	200	129	193	258	322	387	516	645	709	774	967
	300	158	237	316	395	474	632	790	869	948	1185
	400	182	274	365	456	547	730	912	1003	1094	1368
	500	204	306	408	510	612	816	1020	1122	1224	1529
	600	223	335	447	558	670	894	1117	1229	1340	1675
	700	241	362	483	603	724	965	1206	1327	1448	1810
	800	258	387	516	645	774	1032	1290	1419	1548	1935
	900	274	410	547	684	821	1094	1368	1505	1642	2052
	1000	288	433	577	721	865	1154	1442	1586	1730	2163
	1100	302	454	605	756	907	1210	1512	1664	1815	2269
	1200	316	474	632	790	948	1264	1580	1738	1896	2369
1300	329	493	658	822	986	1315	1644	1809	1973	2466	
1400	341	512	682	853	1024	1365	1706	1877	2047	2559	
1500	353	530	706	883	1060	1413	1766	1943	2119	2649	
1600	365	547	730	912	1094	1459	1824	2006	2189	2736	
1700	376	564	752	940	1128	1504	1880	2068	2256	2820	
1800	387	580	774	967	1161	1548	1935	2128	2322	2902	
1900	398	596	795	994	1193	1590	1988	2186	2385	2981	
2000	408	612	816	1020	1224	1631	2039	2243	2447	3059	
2100	418	627	836	1045	1254	1672	2090	2299	2508	3134	
2200	428	642	856	1069	1283	1711	2139	2353	2567	3208	



## **US DOT PHMSA AID Situational Awareness for Employees: SAFE Bulletin Potential for Fatalities and Injuries During Emergency Response (ER) Operations**

49 CFR Parts 192 and 195<sup>1</sup>

**Summary:** The Pipeline and Hazardous Safety Materials Administration’s (PHMSA) Accident Investigation Division (AID) is issuing this SAFE Bulletin to provide inspectors notification of seven incidents where the consequences escalated resulting in fatality and/or injury during the Emergency Response (ER) phase<sup>2</sup> of an event. Escalation occurred from a few minutes after the emergency response initiated to several hours later. In several of the incidents, there was a significant delay from when an emergency responder arrived on scene and when evacuations began. Additionally, there are multiple occurrences of injuries to emergency responders when the public refused to evacuate after a gas release. Due to the ability of natural gas to migrate, emergency responders were most often impacted by gas distribution releases where gas migrated into buildings and exploded.

‘Emergency response’ is the collection of activities that take place during an emergency. Operators activate their preparedness plan and emergency responders take actions to save lives, stabilize the incident, and mitigate further consequences including protecting life and property. During emergency response, people in the potentially affected area either evacuate or shelter in place. Emergency responders take actions to control or stop the release of product.

Pipeline operators are required to have emergency plans to be prepared to safely handle emergencies. The plans provide for a predetermined and approved system for managing the event. Emergency responders must assume a worst-case scenario.

Human consequence incidents that occur after an ER has been initiated involve hazard barriers that were removed or compromised. Pipeline operators are required to have written procedures, to train employees, to establish liaison with first responders, and to perform drills with and without first responders for events that may occur near or at operators’ facilities.

Some investigations in this bulletin are on-going, yet early findings may be pertinent to inspection of an operator’s damage prevention program, emergency response procedures or an operator’s need to focus on internal practices and procedures to address the issues and ensure mitigation and remediation.

AID performs data analysis to identify national pipeline incident trends or novel causes. Fatalities

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<sup>1</sup> This bulletin is not intended to revise or replace any previously issued guidance. It is not legally binding in its own right and will not be relied upon by the PHMSA as a separate basis for an affirmative enforcement action or other administrative penalty, and conformity with the bulletin (as distinct from existing statutes and regulations) is voluntary only, and nonconformity will not affect rights and obligations under existing statutes and regulations.

<sup>2</sup> For this Bulletin, the initiation of ER is the time operator personnel arrived onsite since 30-Day Reports do not capture the time firefighters and police arrive.



and injuries that occur after the initial ER operations are tragic, generally avoidable, and often occur when operator personnel do not follow well established ER procedures.<sup>3</sup> Actions to prevent additional consequences are usually within an operator's control.

**For Further Information, Contact:** Peter Katchmar 405-686-2060 [Peter.Katchmar@dot.gov](mailto:Peter.Katchmar@dot.gov) or Brian Pierzina 816-589-8293 [Brian.Pierzina@dot.gov](mailto:Brian.Pierzina@dot.gov).

## Supplemental Information

### I. Background

AID identified recent events where incidents escalated after the operator was notified and arrived on-site. A small release escalated into fatalities and injuries, not only to operator personnel but to the public and first responders as well. AID found that there may be a significant delay from when an emergency responder arrived on scene and when evacuations began. There have also been instances when emergency responders were injured or killed when members of the public refused to evacuate after a gas release. Because natural gas migrates easily under sidewalks and roadways, emergency responders were most often impacted by gas distribution releases where gas migrated into buildings, reached an ignition source, and exploded.

Responders must be cautious in approaching incident scenes and look for clues that a pipeline is involved. Natural gas is the predominate product transported in gas pipelines. Emergency responders should know what clues may be present in a natural gas emergency such as direct blowing in the air, discoloration of vegetation, noise of gas escaping, and the presence of construction equipment nearby. Emergency responders should never attempt to isolate or operate any valves unless specifically directed by pipeline personnel. Turning off the gas could escalate an event when the intent was to mitigate or prevent further consequence.

Emergency responders must be familiar with the types of equipment associated with pipelines and storage tanks. The most common types of liquid products transported in pipeline are flammable and combustible liquids, ammonia, liquefied petroleum gases, and carbon dioxide (an asphyxiate). Additionally, ethane, ethylene, and chlorine are transported by pipeline. Responders should be aware that both flammable and combustible liquids may have more than one hazardous property. For example, a sour crude oil will also give off deadly hydrogen sulfide gas. Liquefied fluids that are under pressure in a pipeline, readily vaporize when released to the atmosphere. Many of these products are heavier than air and will spread along the ground which may retard dissipation and displace the air. AID's SharePoint site contains a list of all regulated products transported by pipeline.

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<sup>3</sup> This bulletin will not delve into ER efforts by first responders, i.e., fire departments or police. It will only focus on pipeline operator actions or inactions.





### ***Accident Investigation Summaries:***

PHMSA's Accident Investigation Division (AID), State Programs, and National Transportation Safety Board (NTSB) investigated the following events where situations escalated after the emergency response was initiated. Note that AID's National Pipeline Incident Coordinator (NPIC) is the point of contact (PCO) to communicate with the NTSB when there is an event with an injury or fatality. The NTSB also monitors pipeline accidents and deploys on-scene when deemed appropriate.

#### **1. Auburn Hills, MI – Report #20190061**

On May 21, 2019, an operator struck a tee on a shallow, 2" polyethylene gas distribution main while attempting to lower it. The operator's procedures called for the excavation to cease and for personnel to immediately put the emergency response plan into effect. The consequences escalated when the operator continued to excavate in an attempt to isolate the releasing gas. The excavator hit an electric line that was running parallel to the gas main. The electricity sparked and ignited the natural gas resulting in one injury (employee - hospitalized) and a complete loss of the excavation equipment.

#### **2. Midland, TX - Report #20180085**

On Aug. 1, 2018, at approximately 11:30 a.m., a rupture occurred on a Class 1 gas gathering pipeline (Operator #1) about 17 miles southeast of Midland, TX that was directly below a PHMSA regulated gas transmission pipeline (Operator #2).



*Figure 1: Small Diameter Gathering and Gas Transmission Pipeline*

The releasing gas from Operator #1's gathering pipeline ignited and sparked grass fires in the area. Operator #1's employee was driving down a nearby highway, saw the fire, and called for additional staff to investigate. Operator #2 also received notification of the fire as it was near their regulated



12” interstate natural gas transmission pipeline. Operator #2 personnel dispatched to the scene and confirmed the fire in the right-of-way. Operator #2 isolated their 12” line. The Midland Fire Department responded to the event and worked to contain the grass and pipeline fires. A large brush truck was near the failure site.

Operator #2 personnel, Operator #1 personnel, and the firefighters were standing at the site of the initial gas release near the firetruck assessing the initial failure when, at approximately 12:40 P.M. CDT, a second explosion occurred. The second explosion was the rupture of Operator #2’s 12” pipeline. This failure is suspected to have occurred due to weakening of the pipeline steel from impinging flames from the initial release.

- 11:14 a.m. – Operator #2 Gas Control received a report of fire near their gas pipeline which was in a right-of-way with multiple pipelines.
- 11:51 a.m. – Operator #2 confirmed presence of flames in their right-of-way.
- 12:16 a.m. – Operator #2 isolated the valve section and confirmed their pipeline was holding pressure.
- 12:20 a.m. – Operator #2 visually confirmed Operator #1’s gathering line had ruptured.
- 12:30 a.m. – Operator #2 line ruptured.
- 12:33 p.m. - Operator #2 RTU data log showed a "high-high" alarm.
- 12:44 p.m. – Operator #2 Gas Control received a call from their Operations at the site stating that its line had been compromised.

Tragically, the consequences of the initial pipeline failure escalated causing failure of the Operator #2’s pipeline resulting in 7 injuries: 1 Operator #2 employee, 4 Operator #1 employees and 2 firefighters. One Operator #1 employee subsequently passed away.



*Figure 2: Fire Truck in Close Proximity to Failure Site*





### **Gas distribution incidents – Failure for timely evacuation**

The following events were gas distribution incidents where there was a significant delay from when an emergency responder arrived on scene and when evacuations began. Additionally, there are multiple occurrences of injuries to emergency responders when the public refused to evacuate after a gas release. Due to the ability of natural gas to migrate, emergency responders were most often impacted by gas distribution releases where gas migrated into buildings and exploded.

#### **3. Murrieta CA Report #20190089**

On July 15, 2019, contractor employees arrived at a home to install a roof top solar panel system. One of employees was installing a ground rod on the east side of the house. The employee drove the rod into the ground puncturing a ½-inch polyethylene service line, resulting in a gas leak. The contractor called 911 and the Murrieta Fire and Rescue Department responded. The operator was notified at approximately 11:00 a.m. and a pipeline crew arrived on-scene at 11:23 a. m. to turn off the gas to the house. The occupants of the house, a mother, a grandmother and two small children, were evacuated but a secure perimeter was not set up and the mother was able to return to the house to retrieve some bottles for the children.

An explosion occurred at 12:10 pm, while two operator employees were excavating near the ground rod to expose the service line, resulting in one fatality. At 1:13 pm, operator employees excavated near the main to service connection to squeeze off the service and stop the gas leak.

Interviews with the pipeline operator response crew revealed emergency response procedures were not followed; the pipeline crew did not evacuate or mark off the area, did not make the area safe, did not stop the flow of gas, did not check for gas migration.



*Figure 3: Murrieta, CA Gas Explosion*

It is early in the investigation, but the following facts have been confirmed:

- The solar contractor did not have a city permit or a one call ticket.
- The pipeline operator did not adequately evacuate the area or make the area safe when there was blowing gas.



#### 4. Durham, NC – Report #20190049

On Apr. 10, 2019, at approximately 10:07 a.m., an explosion occurred at 115 N. Duke Street, in Durham, NC. The explosion resulted in two fatalities and 20 injuries. Estimated damages were more than \$100M including structurally damaging six buildings, impacting an animal research lab and a vintage Porsche museum. The explosion was the result of a natural gas release that was caused by excavation damage from horizontal directional drill (HDD) to a 3/4-inch diameter plastic gas main with no excess flow valve (EFV). The gas main was damaged by a contractor directional drilling to install fiber optic cable for a telecommunications company.

- 9:11 a.m. - A call reporting a strong smell of gas had been placed to 911
- 9:13 a.m. - Local responders investigated, but detected no odor of gas.
- 9:28 a.m. – HDD operator called 811 to report damage.
- 9:37 a.m. – HDD operator called 911, reporting a gas line had been hit, resulting in the same fire department unit being dispatched to the scene.
- 10:07 a.m. – Explosion occurs at 115 N. Duke St. Evacuations and isolation of the escaping gas were in process at the time of the explosion.

The consequences of the initial gas release escalated because the responding operating personnel and the public were not evacuated far enough from the explosion impact area. Additionally, the owner of the business at 115 N. Duke St. refused the pipeline operator's and firefighter's evacuation order. They were at the door of the building when the explosion occurred.



*Figure 4: Durham, NC Gas Explosion*



## 5. Aurora, CO Report # 20180115

On Nov. 16, 2018, at 5:23 p.m., Aurora Fire Rescue dispatched to a reported gas leak. Shortly after they arrived on scene, an explosion occurred at a retirement home in Aurora, Colorado. The explosion resulted in one fatality, a retirement home occupant, and two people injured, a firefighter and a local resident. Approximately 30 elderly residents were forced to evacuate to a Red Cross center and gas was shut off to ten homes in the middle of winter because of the incident. The explosion was due to a natural gas release when a contract excavator installing fiber optic cables for a telecommunication company, hit a gas line while performing a horizontal directional bore. As reported by KRDO News, this was the second hit by the fiber optic cable operator to gas pipelines in a 72-hour span. The leaking gas appears to have entered an adjacent residential structure and exploded, and this caused the fatality, injuries, and property damage.

## 6. Canton, IL – Report #20160126

On Nov. 16, 2016, about 5:44 p.m. central standard time, a natural gas-fueled explosion occurred at a commercial building in Canton, Illinois. Operator personnel were onsite 15 minutes after the gas release occurred and were onsite for 1.5 hours. The consequences of the initial gas release escalated because the responding operating personnel and the public were not evacuated from the area.

- 9:00 a.m. - Fiber optic contractor performing horizontal directional drill (HDD) to install conduit next to a building.
- 3:58 p.m. - Contractor reported a natural gas service line had been damaged.
- 4:06 p.m. – Gas operator received damage report from the contractor and dispatched field technicians.
- 4:13 p.m. - First operator responder arrived at the scene; three other technicians arrived shortly thereafter. They confirm the pipeline was struck and request excavation equipment.
- 4:41 p.m. - Backhoe excavator arrived to isolate the leak.
- 4:48 p.m. - Nearby customers reported gas odor inside and outside of a nearby building to the operator.
- 5:37 p.m. – Pipeline section isolated and leak stopped.
- 5:43 p.m. – Building exploded killing one operator employee and injuring eleven.

The NTSB report<sup>4</sup> stated that a contributing factor to the severity of the accident was the failure of the fiber installer and the pipeline operator to evacuate the area.

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<sup>4</sup> NTSB's report <https://www.nts.gov/investigations/AccidentReports/Pages/PAB1802.aspx>



## 7. Kansas City, MO Report #20130031

On Feb. 19, 2013, at 6:02 p.m. an explosion occurred at JJ's restaurant, in Kansas City, MO. The explosion resulted in one fatality and four injuries requiring in-patient, overnight hospitalization, along with estimated property damages of close to \$20 million. The explosion was due to a natural gas release which was the result of excavation damage to a 2-inch diameter plastic gas main.

- Between 4:00 and 4:30 p.m. - Excavator performing an HDD for fiber optic installation believed all marked utilities were exposed prior to conducting the drill. However, one of the underground facilities that was exposed was an un-marked electrical conduit. There was a 2-inch gas main approximately one foot below the electric line that was not exposed, and was directly within the drill path of the HDD.
- 4:54 p.m. - Notification to 911.
- 4:55 p.m.– Operator notified.
- Exact time unknown - Evacuation orders were reportedly provided for two of the buildings prior to the explosion. It is also unclear what, where, and when attempts were made to isolate the gas release prior to the explosion.
- 6:02 p.m. – Explosion occurred. Six operator employees on site.

From the Missouri PSC Accident Report: The operator failed to take “prompt and adequate” steps to ensure safety the day of a fatal restaurant explosion in Kansas City, per a Missouri Public Service Commission staff report. The 120-page report said the utility’s workers waited too long before checking whether gas levels had reached unsafe conditions inside JJ’s restaurant on Feb. 19, 2013. The PSC staff report said about a half-hour elapsed between when the operator’s first responders arrived at the scene and when the utility’s personnel first entered the restaurant.

### **Regulatory Requirements for Emergency Response Preparedness:**

#### **Operators are required to have:**

- Procedural manual for emergencies per Part 192.605, 195.402
- Written Emergency Plan per Part 192.615, 195.402(e)
- Written Public Awareness Program per Part 192.616, 195.440

## II. AID Recommendations

The events described above are unusual but all too frequent. There are hundreds of thousands of excavation damages to pipeline systems each year, primarily in gas distribution systems. Only a few escalate to a reporting threshold but when they do, the consequences are usually catastrophic and many times are preventable. It is noted that when these or other gas releases occur near buildings, there is always a risk that gas will migrate into them and explode.



During routine inspections, pipeline safety inspectors may want to consider a detailed review of an operator's written procedures and training records for emergency response personnel. They may also want to have a candid discussion about how to make a site safe immediately when responding to an odor call, gas release call, or other unknown or known hazardous product. Much can be learned by reviewing the actions of onsite personnel after an incident to gain an understanding of their decision-making process during the event. It is this reflection and an understanding of the human factors involved in a response that operators must gain to design effective emergency plans (as required by 192.605(b) and 195.402(c)).

Emergency response operations must be based on a structured and standardized system of procedures to bring consistency to the tactical operation. This will minimize the risk to all. The Incident Command System (ICS) is an essential tool for coordinating emergency responders at any pipeline incident. Operator's responders need to have a working knowledge of ICS organization, system of roles, responsibilities, and procedures for the command and control of emergency operations no matter the size or complexity.

A multitude of emergency scenarios should be explored, discussed, and trained on. In each of the events described above, timely evacuation and an adequate perimeter may have saved lives.

The following are potential areas where inspectors can dig deeper into assessing an operator's emergency response procedures and public awareness program:

***Operator Emergency Response Plan and Public Awareness Program***

- Do the operator's procedures and outreach cover a multitude of pipeline failure scenarios?
  - Scenarios provide a framework for discussion of safety issues as they relate to the hazards and risks of pipeline emergencies.
  - This provides a time to discuss tactical options for handling different pipeline emergencies.
  - Operators should set objectives for discussing each type of scenario.
  - Follow the training with a discussion of leak and fire control methods that might be used to control different situations.
- Does the discussion cover potential gas migration paths? Procedures on gas inside buildings?
- Does the operator's program include education concerning:
  - Knowledge of the characteristics of chemical and physical properties of the product being transported in the pipeline?
  - Key properties: flash point, flammable limits, specific gravity, and vapor density.
  - Physical indications that such a release may have occurred?





- Steps that should be taken for public safety in the event of a pipeline release?

### III. Additional Resources

- **National Incident Management System (NIMS) and NIMS No Cost online training** program information is detailed at <https://www.fema.gov/nims-training>.
- **National Association of State Fire Marshals Professional Development Opportunities for Individuals and Organizations Course - Pipeline Emergencies: Awareness Level.** No cost online training at <http://nasfm-training.org>.
- **Pipeline Emergency Response Guidelines - Pipeline Association for Public Awareness** is a nonprofit corporation created to enhance public safety. If you would like more information about the Association or pipeline safety and emergency preparedness education, please contact 16361 Table Mountain Parkway, Golden, CO 80403, or visit the Association's web site at [www.pipelineawareness.org](http://www.pipelineawareness.org).
- **Federal Emergency Management Agency (FEMA)** recognizes September as [National Preparedness Month](#), to promote family and community disaster and emergency planning now and throughout the year. The 2019 theme was "Prepared, Not Scared."<sup>5</sup>

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<sup>5</sup> <https://www.ready.gov/september>

# EMERGENCY GAS SHUT OFF

To be fully prepared for an emergency, you should know where your gas meter is located and how to shut off the natural gas service to your home.

The following are examples of emergencies; however, it is not a comprehensive list:

- Fire in structure or near the meter.
- Earthquakes with enough magnitude to displace equipment.
- Floods.
- Wind damage.
- Carbon monoxide symptoms.
- Gas odors.

If an emergency occurs, but you do not experience flulike symptoms or smell or hear escaping gas, then you probably do not need to shut off your gas. Doing so may deprive you of service unnecessarily.

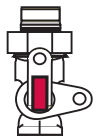
However, if you are experiencing flulike symptoms without a fever, are in doubt, or smell or hear escaping gas, then:

## DO NOT:

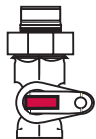
- Switch anything on or off, such as lights, electrical switches, garage door openers or vehicles.
- Use e-cigarettes, smoke, use lighters, matches or other open flames.
- Use a telephone of any type, including cell phones.
- Return for personal items.

## DO:

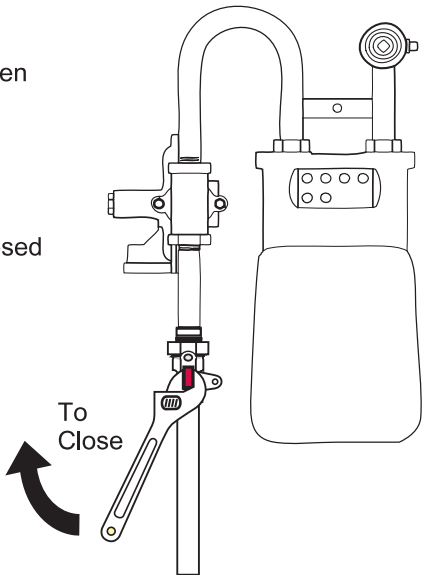
- Immediately leave the house.
- From a remote location, call Cascade Natural Gas at **888-522-1130** or call emergency responders at **911**.
- At your discretion, **if it is safe to do so, shut off the gas meter** following the instructions on the reverse side of this card.
- Once the gas is off, for your safety, **LEAVE IT OFF** until a Cascade Natural Gas service representative can check out the system. The equipment will be checked by a technician, who can ensure that the system is intact and operable.



Open



Closed



# HOW TO SHUT OFF A GAS METER

- Locate the meter shut-off valve (usually the first fitting) on the gas supply pipe coming out of the ground.
- Use a long-handled wrench to turn the valve one-quarter turn so that the lever is crosswise to the pipe (see diagram).
- Once the valve is off, **LEAVE IT OFF** until a qualified Cascade Natural Gas service representative can check out the system.



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All Emergencies – Customer Service:  
888-522-1130 • [www.cngc.com](http://www.cngc.com)



(see reverse side) 02/21





CASCADE  
NATURAL GAS

C O R P O R A T I O N <sup>®</sup>

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## Excess Flow Valve (EFV)

# NOTIFICATION

The United States Department of Transportation (DOT) has issued a pipeline safety regulation requiring natural gas utility companies to notify customers about the availability of Excess Flow Valves (EFV) for installation on the natural gas service line to their home or business.

### What is an EFV?

An EFV is a safety device designed to automatically stop or restrict the flow of natural gas if an underground pipe is broken or severed. Such damage is usually the result of some type of excavation. Although an EFV may help limit the effects or damage of such an incident, the best way to protect against such incidents is to ensure that anyone excavating on your property has called 811 to have buried pipelines properly marked before digging. Installation of an EFV will not protect against customer appliance gas leaks, small gas service line punctures or gas meter leaks. An EFV may not protect a pipeline from damage caused by flooding or earthquakes. EFVs are not available for some customers due to the amount of gas used, areas with delivery pressure less than 10 psi or other circumstances that hinder the effectiveness of the EFV.

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## Where is an EFV installed?

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The EFV is installed underground on the service line that runs between the gas main located in public right of way or a dedicated utility easement and the natural gas meter. Generally the EFV is installed as close as possible to the gas main. In some instances the location may need to be installed further from the gas main to accommodate interference from other buried structures.

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## How much does it cost to have an EFV installed?

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If you would like to have an EFV installed in your service line, please contact Cascade Natural Gas Corporation at 888-522-1130 or email [customerservice@cngc.com](mailto:customerservice@cngc.com). The customer is solely responsible for the cost associated with installing the EFV. There will be no ongoing cost to the customer associated with the maintenance or replacement of the EFV. Installation costs vary greatly due to different soil conditions within our service territory. Estimates for cost and timeframe for construction will be provided as requested on a case-by-case basis. The EFV will be installed at a time that is mutually agreeable to the company and customer. Since the EFV will be installed on Cascade's natural gas pipe, only Cascade or its approved contractors may perform the installation.



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**Know what's below.  
Call before you dig.**

# Keep Snow and Ice Away From Meters

For your personal safety, customers are encouraged to inspect their natural gas meter(s) on a regular basis and remove any ice and snow built up. Keeping your meter(s) clear of accumulation will help prevent damage that could result in a hazardous situation.

## Why is it important to keep your meter clear of snow and ice buildup?

- Snow and ice puts stress on the regulator and meter piping, and could cause gas to leak into your home and create an unsafe condition.
- Snow cover may result in abnormal pressure that affect appliance operation, and interrupt your service.
- If there is an emergency, response crews will need clear access to your meter.

## Meters are designed to withstand extreme weather conditions, but remember to protect them from ice and snow buildup during the harsh winter months.

- When removing heavy accumulations of snow or ice, do not strike meters with snow blowers, blades or shovels.
- Do not kick your meter to break or clear ice.
- Use a broom, a snow brush or your hands to lightly remove snow and ice that is capable of being removed. For extremely heavy ice buildup, please contact Cascade Natural Gas.
- Remove icicles and snow from overhead eaves and gutters to prevent damage to the meter as they fall. Also, dripping water can splash and freeze on the meter or vent pipes.



**Carefully clear and keep the snow and ice away from the meter for your personal safety.**

## Meter Reading and Safety Requires Clear Access to Meter at All Times

Ice and snow may block the electronic reading of your meter. Our desire is to accurately bill your natural gas usage.

- Please keep the area in front of and around your gas meter clear at all times. If you are storing a boat or trailer in front of your meter, try not to completely block off the meter.
- Please contact Cascade Natural Gas to discuss the building of decks, boxes or landscaping planned around your meter to avoid creating a hazardous situation.

### Call 811 Two Business Days Before You Dig

The greatest risk to underground natural gas pipelines is accidental damage during digging projects. Calling 811 to have the utility lines on your property marked and carefully hand digging around the marked lines helps you avoid costly damages, dangerous situations, and service interruptions.



Know what's below.  
Call before you dig.

If you believe damage has occurred around the meter, you have no heat, or smell gas, call Cascade Natural Gas immediately.

**All Emergencies – 24-Hour Response – 888-522-1130**

Customer Service

888-522-1130

Call 7:30 a.m.- 6:30 p.m. Monday-Friday

[www.cngc.com](http://www.cngc.com)

Thank you for your cooperation.



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**IF YOUR NATURAL GAS SERVICE IS INTERRUPTED FOR ANY REASON, PLEASE CALL US IMMEDIATELY: 888-522-1130.**

# Natural Gas Smells Bad for a Good Reason

## Huele mal por una buena razón

In its natural state, natural gas is odorless and colorless. For easy detection, Cascade Natural Gas injects an odorant called mercaptan into the gas before it is inserted into the distribution system. Mercaptan gives off a foul smell, reminiscent of rotten eggs or sulfur.



**Scratch this egg with your fingernail  
and sniff the gas odor.**

Rasguñe esta huevo con su uña y huela el olor del gas.





# What To Do In Case Of A Natural Gas Leak

A natural gas leak can be dangerous because it increases the risk of fire or explosion. Here are safety rules to follow if you smell the odor of mercaptan.

Aquí están las reglas de seguridad si huele el olor a mercaptán.

## DON'T / no hacer

- Turn on or turn off any lights or electrical switches, or unplug appliances.  
encienda las luces o los interruptores eléctricos, o desenchufe los electrodomésticos.
- Smoke or use e-cigarettes, lighters, matches or other open flames.  
Fume o use cigarrillos electrónicos, encendedores, fósforos u otras llamas abiertas.
- Turn on or off any battery-powered, rechargeable or electrical device, including phones, garage door openers, radios, TVs, computers or any device that could create a spark.  
encienda o apague cualquier dispositivo con pilas, recargable o eléctrico.
- Use telephones of any type, including cordless, cell or landline.  
use teléfonos de cualquier tipo, incluidos teléfonos inalámbricos, celulares o fijos.

## DO / hacer

- Have occupants exit the building immediately.  
haga que los ocupantes salgan del edificio inmediatamente.
- If you are outside, leave the area immediately.  
si está afuera, abandone el área inmediatamente.
- Go to a safe location and call Cascade Natural Gas at 888-522-1130.  
vaya a otro lugar y llame a Cascade Natural Gas al 888-522-1130.
- Keep away until given the "all clear" from a gas company employee or emergency official.  
manténgase alejado hasta que el empleado de la compañía de gas o el oficial de emergencia le dé el visto bueno.

888-522-1130 | [www.cngc.com](http://www.cngc.com) |     



# Your Gas Piping

## Important Customer Information

The house piping from Cascade Natural Gas' meter to an appliance belongs to the customer; maintenance of the house piping is the customer's responsibility. Be sure it is the proper kind of pipe and that it is installed, tested, and maintained in accordance with applicable state and local piping codes. The piping should be installed by a qualified person and inspected by local building officials. Avoid burying house piping under buildings or placing structures on top of natural gas lines whenever possible. The installer and building official can provide specific, detailed requirements for installation. Plumbing contractors and heating contractors can assist in inspecting and repairing the house piping. If existing underground piping is not installed to current code standards, it may represent a hazard.

Particular attention should be given to protecting any underground house piping from corrosion. If the piping is not maintained, it may be subject to the potential hazards of corrosion leakage. Piping should be periodically inspected for leaks and corrosion. A repair must be made if any unsafe condition is discovered.

**Call 811 two business days before digging to alert utilities to locate and mark THEIR buried lines from the street to your house. This is a free service. These locates do not include house piping you may have installed to your property and must be located by a private company. Dig carefully by hand within 24 inches of the marked pipeline.**



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# SU TUBERÍA DE GAS

## Importante Información del cliente

Toda aquella tubería desde el medidor de Cascade Natural Gas hasta los electrodomésticos en su hogar son propiedad del dueño de casa, **cuales mantenimiento y responsabilidad son del propietario.** Asegúrese que el tipo de tuberías que use sean apropiables, instaladas, probadas y mantenidas en conforme con aplicables códigos de tuberías locales y estatales. La instalación de la tubería debe ser el trabajo de un contratista clasificado e inspeccionada por funcionarios locales de construcción. Evite enterrar las tuberías de la casa debajo de edificios o colocar estructuras sobre las líneas de gas natural siempre que sea posible. Un contratista o funcionario de construcción puede proporcionarle detalles y requisitos específicos. Unos contratistas de plomería o calefacción pueden asistirle en inspeccionar o proporcionarle reparaciones de tuberías en su casa. Si la existente tubería subterránea no está instalada según a los estándares de código actuales, puede representar un peligro.

Debe prestarse atención en particular, a la protección contra la corrosión a cualquier tubería subterránea. Si la tubería no se mantiene, puede ser sujeto a los potenciales peligros de fuga por la corrosión. Las tuberías deben ser inspeccionadas periódicamente para detectar fugas y o corrosión. Se deben realizar reparaciones si se descubren condiciones inseguras.

**Llame al 811 dos días hábiles antes de excavar para alertar a los servicios públicos que localicen y marquen sus líneas subterráneas de la calle a su casa. El servicio es gratuito y no incluye localizar líneas subterráneas instaladas por el propietario que deben ser localizadas por un contratista privado. Excave a mano con precaución dentro de 24 pulgadas de las líneas marcada.**



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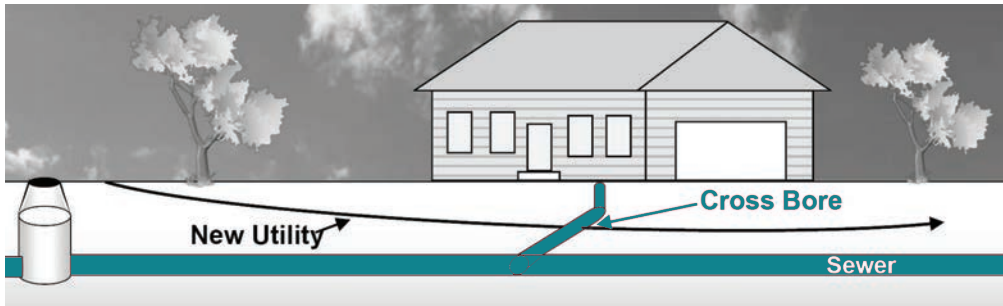
[www.cngc.com](http://www.cngc.com)





# CALL BEFORE YOU CLEAR

ALWAYS CALL CASCADE NATURAL GAS BEFORE CLEARING A SEWER LINE



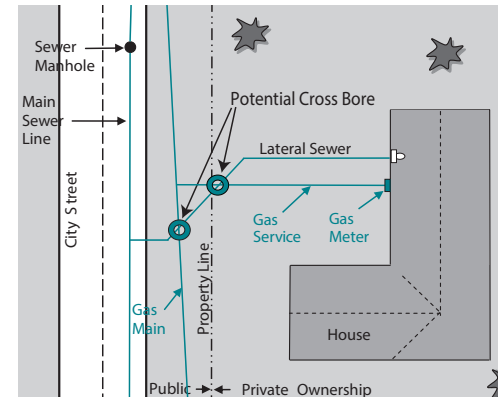
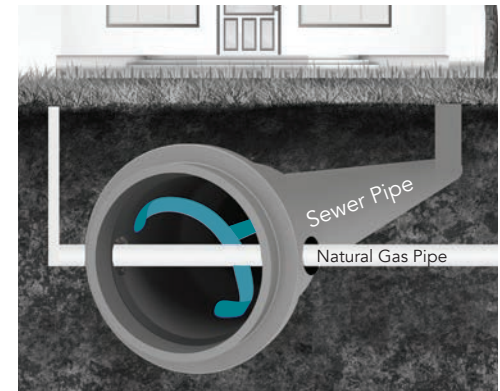
There is a possibility that our gas pipeline may cross through the sewer pipe on your property. This is called a cross bore and occurs when trenchless technology was used to install underground utility lines.

Plumbers and homeowners often use a rotating cutter that can be inserted in the sewer line to clear a clog. While good for clearing out objects such as tree roots, these devices can also cut through natural gas pipelines and other underground utility lines that were unintentionally installed through sewer lines that were not mapped or installed with locating technology.

If a cross bore exists, it can cause a natural gas emergency if the pipeline is cut. Natural gas could enter the sewer system and create a hazardous situation, including explosion, complete destruction of the structure, injury, or death.

## FOR YOUR SAFETY:

- Call Cascade Natural Gas at **888-522-1130** prior to clearing your sewer line. We will promptly arrive to locate and mark our natural gas pipelines, free of charge.
- Never clear a sewer line until the clog has been identified.
- If you notice bubbles rising in the toilet bowl or through standing water, or a strong odor of natural gas, immediately evacuate the premises leaving the exit door open.
- From a safe distance, call 911 and Cascade Natural Gas at **888-522-1130**.



For additional cross bore information, check out the Cross Bore Safety Association website: [crossboresafety.org](http://crossboresafety.org) or the Call Before You Clear website: [callbeforeyouclear.com](http://callbeforeyouclear.com)



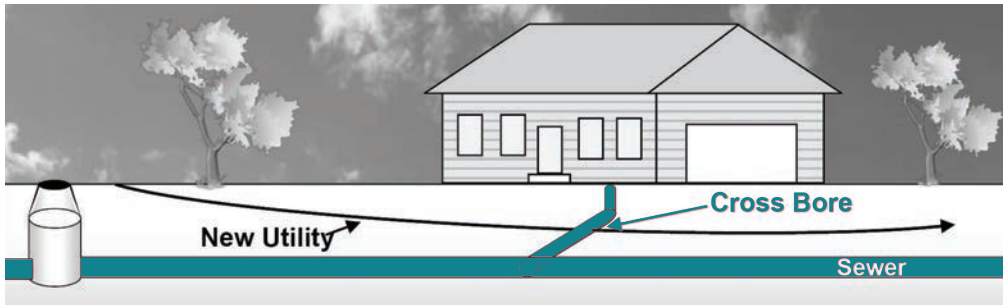
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# LLAME ANTES DE DESPEJAR

SIEMPRE LLAME AL CASCADE NATURAL GAS ANTES DE LIMPIAR UNA LINEA DE ALCANTARILLADO



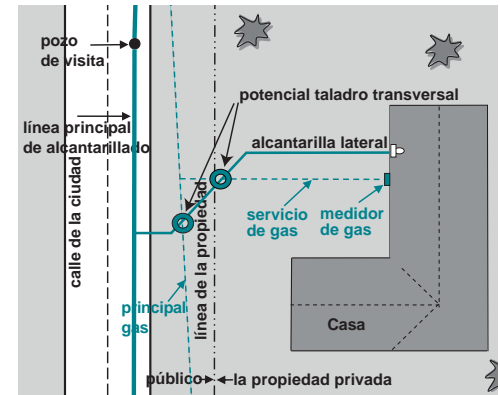
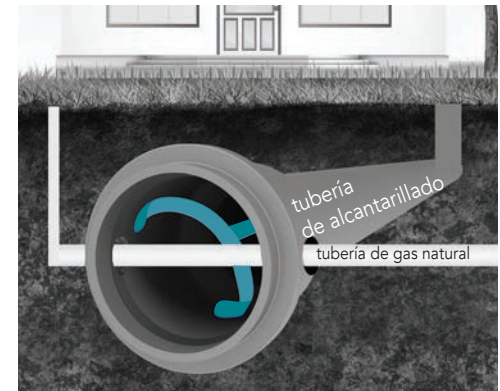
Existe la posibilidad de que nuestra línea de gas pueda cruzar a través de la tubería de alcantarillado en su propiedad. Esto se llama un agujero cruzado y ocurre cuando se utilizó la tecnología sin zanjas para instalar líneas de servicios públicos subterráneas.

Los fontaneros y propietarios a menudo utilizan una cortadora giratoria que se puede insertar en la línea de alcantarillado para limpiar un obstrucción. Si bien son buenos para eliminar objetos como las raíces de los árboles, estos dispositivos también pueden cortar a través de tuberías de gas natural y otras líneas de servicios públicos subterráneas que se instalaron involuntariamente a través de líneas de alcantarillado que no se mapearon ni instalaron con tecnología de localización.

Si existe un agujero cruzado, puede causar una emergencia de gas natural si se corta el gasoducto. El gas natural podría entrar en el sistema de alcantarillado y crear una situación peligrosa, incluyendo la explosión, la destrucción completa de la estructura, lesiones o la muerte.

## PARA SU SEGURIDAD:

- Llame a Cascade Natural Gas al **888-522-1130** antes de limpiar su línea de alcantarillado. Llegaremos rápidamente para localizar y marcar nuestros gasoductos de gas natural, de forma gratuita.
- Nunca despeje una línea de alcantarillado hasta que se haya identificado la obstrucción.
- Si observa burbujas que se elevan en el inodoro o a través de agua estancada, o un fuerte olor a gas natural, evacúe inmediatamente las instalaciones dejando la puerta de salida abierta.
- Desde una distancia segura, llame al 911 y Cascade Natural Gas al **888-522-1130**.



Para obtener información adicional sobre el diámetro interior, consulte la página de internet de Cross Bore Safety Association: [crossboresafety.org](http://crossboresafety.org) o la Llamada Antes De Borrar página de internet: [callbeforeyouclear.com](http://callbeforeyouclear.com)



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# **DRAFT Coming 2023** **Automated Email after** **811 Locate Ticket Request**

Thank you for placing an 811 locate ticket request. This is an automatic communication from Cascade Natural Gas Corporation.

Our goal is to help prevent damage to underground utilities within the area where you will be working, to keep your project safe, on time, and free of expensive repairs.

## **Safety Instructions & Guidance:**

- Outline/mark your planned work site in white paint to help our locators identify the correct area to locate.
- Wait for all utility companies listed on the ticket to mark the approximate location of their utility lines.
- Underground utility locations are typically marked with either spray paint and/or locating flags. See Uniform Color Code below for utility colors. Please note, the uniform color code does **NOT** represent the color the underground utility line will be.
- Locate marks are not exact and depths of utility lines should never be assumed. Multiple lines may be in a common area.
- Carefully hand dig to expose and determine the exact location of utilities if you are going to be digging within several feet of the locate marks, and in every location you will be crossing the utility.
- Always use a spotter and keep adequate clearance when using machinery around utility lines.
- Stop digging immediately if you find unmarked utilities and call 811 to have them marked.
- If you damage a gas pipeline, do not assume it is not in use (abandoned) because there is no flow of gas. Call Cascade immediately.
- If you damage a gas pipeline, do not assume it is not in use (abandoned) because there is no flow of gas. Call Cascade immediately. An Excess Flow Valves (EFV) is a device designed to automatically restrict the flow of natural gas for your safety if an underground pipeline is damaged. EFV are installed on new and replaced service lines that supply gas to single family residence or business service lines but may not be found on all service lines.
- If you smell natural gas or damage a natural gas line and there is blowing gas, leave the area immediately, call 911, and then call Cascade.
- Never try to fix a damaged natural gas line or try to restrict the gas flow in any way.
- Keep employees away from the area and do not attempt to operate equipment near the damaged line or the gas leak area.
- Extinguish or eliminate any source of ignition near the area.
- Report ALL damaged natural gas lines, including damage to the coated wire paralleling the gas line, to Cascade even if there is no blowing gas. Minor nicks and wrap damage, or damage to the wire, can be dangerous if left unrepaired.
- **Notification – Newly installed Cascade natural gas pipe may look different. Please see attachment for more details.**

## **Cascade Emergency Number: 888-522-1130**

Anyone digging (or displacing earth) must follow the state dig law.

[Click here to view the full Washington State Dig Law.](#)

[Click here to view the full Oregon State Dig Law.](#)

## Uniform Color Code – Utility Locate Marks



White - Proposed Excavation



Orange - Communication, Alarm, or Signal Lines, Cables or Conduit and Traffic Loops



Pink - Temporary Survey Markings



Blue - Potable Water



Red - Electric Power Lines, Cables, Conduit and Lighting Cables



Purple - Reclaimed Water, Irrigation and Slurry Lines



Yellow - Gas, Oil, Steam, Petroleum or Gaseous Materials



Green - Sewer and Drain Lines

Cascade's number one goal is to protect you, your employees, and the community from the risks associated with damaging a natural gas pipeline during excavation. Cascade is here to help you through your project, and we thank you for your efforts in keeping our community safe.

### Need More Information? Contact Us:

Customer Service/Emergency 888-522-1130 | [awareness@cngc.com](mailto:awareness@cngc.com) | [www.cngc.com](http://www.cngc.com)

Esta información está disponible en español en nuestro sitio web [www.cngc.com/es/](http://www.cngc.com/es/)

Thank you,

Public Awareness & Damage Prevention Team

Cascade Natural Gas Corporation

*A Subsidiary of MDU Resources Group, Inc.*

**Know what's below.**  
**Call  before you dig.**

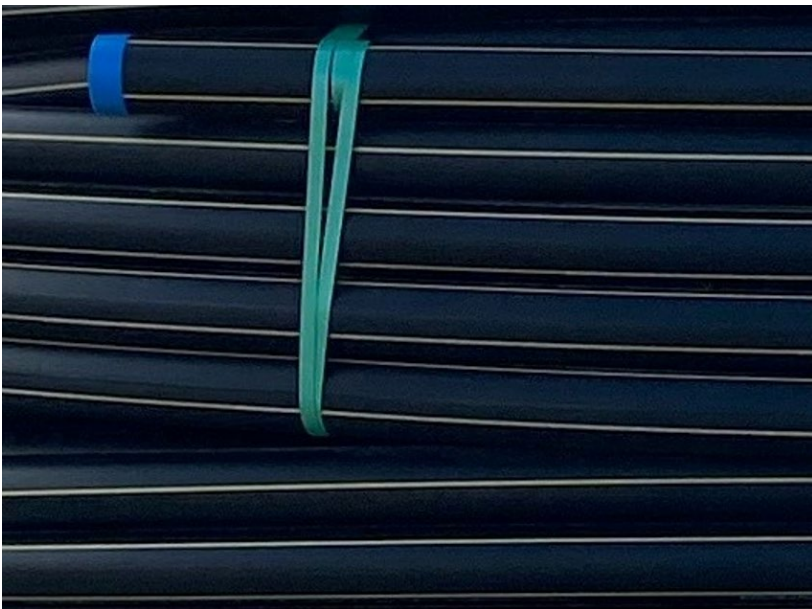


## NOTIFICATION – Newly Installed Pipe Color

As you continue to work around Cascade Natural Gas Corporation facilities, you will begin to see a new plastic pipe color in the ground - **black with a yellow stripe pipe** (see images below). Cascade will begin to install the **black with a yellow stripe pipe** for main and service pipeline across Intermountain territory. Please treat our pipeline with respect and care.

This change is due to shortages in yellow polyethylene (plastic) pipe production traditionally installed on newer mains and services across our service territory. The yellow polyethylene (plastic) pipe material, yellow in color, has been our standard for the last several decades for our mains and services.

**Below are examples of the Cascade natural gas pipeline you will begin to see installed to serve our customers. Please note, Cascade pipeline color can vary based on the date it was installed and may not always look like the images below.**



Sincerely,

Cascade Natural Gas Corporation  
*A Subsidiary of MDU Resources Group, Inc*

**Know what's below.**  
**Call 811 before you dig.**