York County Natural Gas Authority
Patriots Energy Group

pipeline connection

FOR EMERGENCY RESPONDERS

spring 2018

Pipeline Basics:

AN OVERVIEW OF THE NATURAL GAS TRANSPORTATION SYSTEM

In the United States, natural gas is transported almost exclusively through pipelines. Here in South Carolina there are approximately 38,822 miles of distribution lines and 2,809 miles of transmission lines transporting natural gas to industrial, commercial, and residential customers. So where does the gas come from and how does it get here?

Gathering Line

Gathering lines transport natural gas from the wellhead and production areas to processing and treating facilities. Most of these areas are located in the gulf coast and western areas of the country. However, new technology has allowed for gas to be obtained in the Marcellus Shale areas within Pennsylvania, Ohio, West Virginia, and Kentucky.

Transmission Lines

Transmission lines are typically large, high pressure, steel pipelines. In our area, transmission pipelines are operated by Patriots Energy Group (a joint action agency owned by York, Chester, and Lancaster County Natural Gas Authorities), Dominion Energy Carolina Gas, and Williams-Transco Pipeline. Transmission lines transport natural gas within and across state borders to marketing and distribution terminals and large industrial customers. Transmission pipelines are monitored around-the-clock using sensors that transmit data to the control center. Data is monitored continuously to ensure safe operations.

Distribution Lines

Finally, distribution pipelines, like the ones operated by York County Natural Gas Authority bring gas from supply points known as "city gates" or "town border stations" to residential and business customers. Distribution pipelines are typically smaller and lower pressure than their transmission counterparts and may be constructed of steel or plastic.

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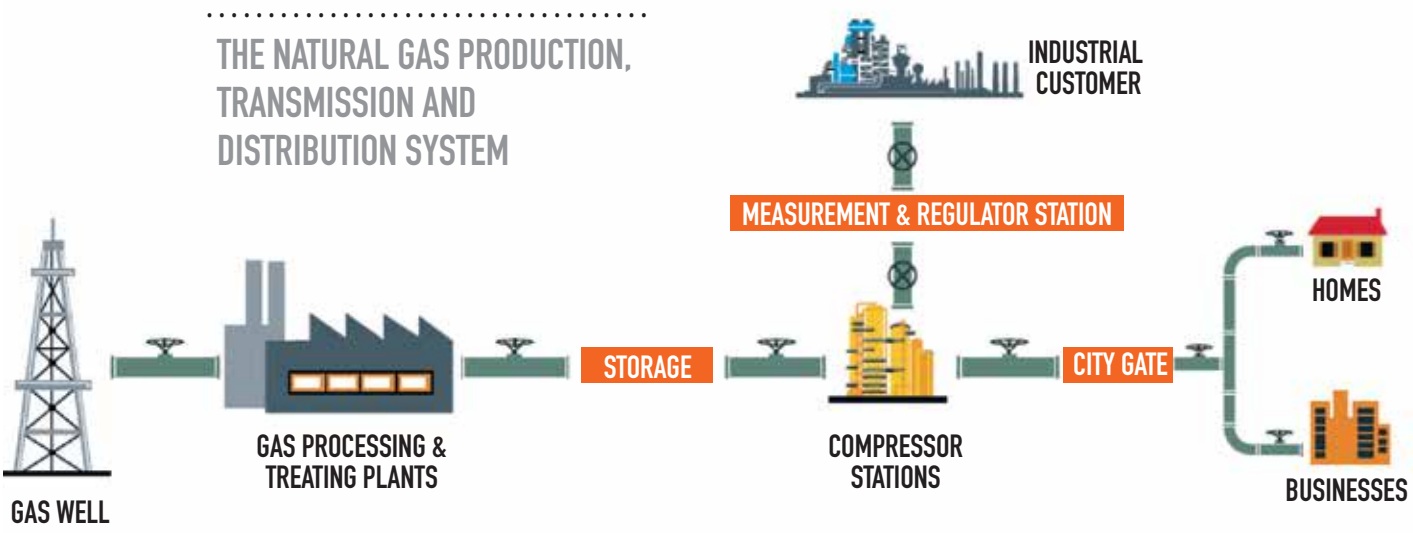

Pipeline Basics

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Compressor Stations

Because pipelines run horizontally, they need an occasional boost to keep the product moving. For natural gas lines transporting pressurized gas this job is done by a series of above ground facilities known as compressor stations. Compressor stations are typically the largest above-ground natural facilities associated with natural gas transmission pipelines and are located at key intervals every 40 to 100 miles along the pipeline route.

Valves

Valves are also located along the natural gas pipeline system. Valves are used to restrict the flow of the product or to provide access to a section of the line for cleaning, maintenance or construction. Natural gas pipelines also have pressure relief valves, known as reliefs.

Reliefs

Reliefs are an important component of the pipeline system that enable operators to control the pressure of the gas in the pipelines. They alleviate excess line pressure by venting a small quantity of the natural gas when needed. ***A blowing relief should never be shut off or capped by emergency response personnel.*** Only trained and certified pipeline technicians should handle a blowing relief.

If a pipeline emergency occurs, emergency response personnel should isolate the area and restrict entry to pipeline personnel only. Pipeline operator personnel will operate valves as needed. Emergency responders should not operate a pipeline valve upstream from a single meter set without the pipeline operator's permission.

Please feel free to contact us at York County Natural Authority with questions regarding pipeline operations in your area. We welcome your inquiries and any requests for training!

Pipeline Emergency Response Tactics:

Initial Response and Arrival-Conducting Effective Scene Size-Up

Conducting a thorough scene size-up is a critical first step in responding to any emergency — especially one involving a pipeline facility. Regardless of your affiliation — fire service, law enforcement, emergency management, or pipeline operator, conducting an effective scene size-up is paramount to a safe response and management of an incident.

In far too many cases, we succumb to the temptation to jump right in and begin response actions or render aide before ensuring scene safety. Responders want to help. That's what they do! However, it is critically important to take those few extra seconds to survey the scene and assess it for hazards. It is also important to remember that size-up is a continual process throughout the incident from initial response to clearing the scene. Above all, we must fight the urge to fall into the trap of tunnel vision by focusing only on that which is directly in front of us.

While not an all-inclusive list, here are some issues to consider when conducting an effective scene size-up:

- **Is my response vehicle/apparatus positioned appropriately and in a safe location?** Upwind? Uphill? Where would I establish staging? Is there a hazard from proximity to vehicle traffic of the leaking product?
- **If near a railroad track, should the train operator be notified?**
- **Have I taken initial steps to isolate the area? Is anyone in danger?**
- **What is the wind direction?** *(blowing trees, smoke, a flag, etc.)*
- **Have I established a means of egress from the scene in the event it is needed?**
- **Have I eliminated potential ignition sources such as vehicles, non-intrinsically safe communications equipment (radios, pagers, cell phones, etc.)?**
- **Are there secondary hazards such as downed power lines or leaks of other hazardous materials?** *Is leaking material endangering storm drains or water bodies?*
- **Have I accurately determined the type of product involved and the name of the pipeline operator?**
- **Have I developed a site safety plan, if needed?**
- **Have I relayed scene size-up information to other responders?**

Remember that scene size-up is a continual process since incidents can and often do change with time.

Keeping Pipelines Safe

PIPELINE MAINTENANCE ACTIVITIES

Pipeline operators such as York County Natural Gas Authority actively monitor pipelines and above ground facilities using field data, aerial and foot patrols. Additionally, we implement the following safety procedures and protocols to help keep pipelines safe:

Pipeline Markers

Pipelines are marked with signage that provides the name of the operator, the material being transported, and a 24-hour emergency contact phone number. As a general rule, pipeline markers should be visible one to another depending on topography. Markers will always be found at road and railroad crossings.

Valve Maintenance

Pipeline valves are critical components to ensure safe pipeline operation and isolation during an emergency. As such, valves are inspected and maintained on a regular schedule. Valves that are discovered to be damaged or difficult to operate are promptly repaired.

Cathodic Protection

Steel pipelines as with anything comprised of steel are susceptible to corrosion if not protected. In addition to a protective coating, steel pipelines have an electrical current applied in millivolts which serves to inhibit corrosion. This cathodic protection system receives regular inspections, testing, and maintenance to ensure the pipelines are being properly protected.

Pressure Limiting and Regulating Station Maintenance & Inspections

Along the pipeline system, pressure limiting and regulating stations are established to ensure safe transportation of natural gas at designated pressure levels. Highly skilled and trained technicians inspect and maintain these facilities which include regulators, reliefs and sophisticated communications equipment for data collection and control of the equipment within the stations.

Right of Way Maintenance

Natural gas pipeline rights-of-way receive regular inspections and maintenance. This includes patrolling for unauthorized excavation activity, vegetation control, and identification and subsequent repair of any erosion that could increase risk to the pipeline buried below.

Leak Survey

Using detection equipment capable of detecting leaks in the parts-per-million range, technicians walk the rights-of-way and areas containing buried mains and service lines searching for natural gas leaks. When leaks are detected, the source is located and investigated for repair.

If you would like more information regarding our extensive pipeline maintenance activities please contact us!

How to identify our Employees and Contractors

York County Natural Gas Authority (YCNGA) technicians and approved contractors are constantly working in the areas we serve. Whether they're performing routine maintenance, completing a service call or surveying for leaks, everyone's safety is at the forefront of all we do. As our partner in safety and an extra set of eyes and ears in the community, please stop and ask for ID if you see suspicious individuals or activities around our natural gas stations or pipelines.

OBSERVE THE UNIFORM

All employees and most contractors wear a company uniform, hat and/or safety vest with the YCNGA logo.

NOTE THEIR VEHICLE

All company and contractor vehicles should have YCNGA logo decals or magnets corresponding to the logo on their ID.

INQUIRE ABOUT THEIR VISIT

All employees and contractors will identify themselves and their purpose if asked.

ID BADGE

Ask for an identification badge. All employees and most contractors have either the YCNGA logo or the YCNGA Contractor logo on their badge

As always, if you're unsure whether an individual is associated with YCNGA, contact us at **(803)323-5304 or 866-578-4427** to verify their identity.

Pipeline Operations Recommended Protocol

INITIAL INTAKE & FIRST RESPONDER ☑ CHECKLIST

In the event a resident calls in with a natural gas emergency **identify the callers location** and **determine what has happened.**

Then determine if the caller is in **immediate danger:**

IS THE CALLER...

- inside a building and reporting a strong gas odor like rotten eggs or a burnt match
- within two city blocks or about 1,000 feet of a loud roaring noise like a jet engine coming from the ground, near an outside area where the odor of rotten eggs or a burnt match is strong, or observes dirt blowing from a hole in the ground possibly making a hissing or whistling noise
- within one city block or 500 feet of bubbling in pools of water on the ground, an area of dead vegetation, or an outside area where there is a faint odor like rotten eggs or a burnt match

IF SO, CALLER MAY BE IN IMMEDIATE DANGER AND SHOULD BE ADVISED TO:

- ☐ AVOID ANY ACTION THAT MAY CREATE A SPARK
- ☐ DO NOT START A VEHICLE
- ☐ DO NOT TURN ON OR OFF LIGHTS
- ☐ DO NOT USE DOOR BELLS OR FANS
- ☐ DO NOT OPEN OR CLOSE WINDOWS
- ☐ DO NOT ATTEMPT TO SHUT ANY VALVES
- ☐ DO NOT CARRY OR USE A CORDLESS PHONE
- ☐ DO NOT USE CELL PHONES UNTIL YOU ARE IN A SAFE LOCATION AWAY FROM THE LEAK AREA
- ☐ EVACUATE THE BUILDING (AT LEAST 1,000 FEET OR TWO CITY BLOCKS)
- ☐ IF THE LEAK IS OUTSIDE, EVACUATE THE AREA ON FOOT IN AN UPWIND DIRECTION AWAY FROM THE LEAK AT LEAST FOUR CITY BLOCKS OR APPROXIMATELY 2,500 FEET
- ☐ DO NOT HANG UP THE PHONE — JUST SET IT DOWN
- ☐ ALERT OTHERS TO EVACUATE
- ☐ WAIT FOR RESPONDERS TO ARRIVE

CONTACT INFO

York County Natural Gas Authority

Emergency	(866) 201-1001
Non-Emergency	(803) 323-5304
Website	ycnga.com

Patriots Energy Group

Emergency	(888) 609-9858
Website	patriotsenergy.com

Chester County Natural Gas Authority

Non-Emergency	(803) 385-3157
Website	chestergas.com

Lancaster County Natural Gas Authority

Non-Emergency	(803) 285-2045
Website	lcngasc.com

SC811

In York County	(888)721-7877
Website	SC811.com

National Pipeline System

npms.phmsa.dot.gov

USDOT Pipeline Safety

primis.phmsa.dot.gov/comm/EmergencyOfficials.htm

Training Opportunities for your Department

York County Natural Gas Authority personnel are available to provide training to local emergency responders on how to safely handle a pipeline emergency. Please feel free to contact us for more information or to schedule a training session.

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