7th Annual HazMat Symposium
Florida’s “Big 3” Natural Gas Transmission Pipelines
Safety – Emergency

Fire exit
Deep Vein Thrombosis (or blood clots in the leg) is a medical condition that can be attributed to prolonged periods of inactivity caused by space limitations that may slow circulation and produce edema (leg swelling). In addition, bent knees compress the popliteal vein (the deep vein behind the knee), can create a potential site for clot formation over time.

**What are the causes?**
Restricted flow of due to:
- Other medical issues
- Traveling long distances
- Sitting for long hours at a time
- Heredity

**What are the symptoms?**
- Swelling
- Pain
- Warmth and redness in the involved leg

**How can you prevent blood clots?**
- Stand up & walk around every 1 to 2 hours
- Do not smoke before your trip
- Wear loose comfortable clothing
- Shift your position while seated, and move your legs and feet often
- Drink plenty of fluids
- Avoid or limit your intake of alcohol and medicines that make you sleepy
- Wear knee-high compression stockings
Natural Gas Pipeline Emergency Response
Who is Florida Gas Transmission?

- Florida Gas Transmission (FGT) operates nearly 5,300-miles of interstate natural gas transmission pipelines, a system that extends from South Texas to South Florida.
- Florida’s original natural gas transmission pipeline operator – in-service since 1959.
- Operating in all but 13 counties in Florida.
- Capability of our system to flow 3.2 BCF/D.
Florida Gas Transmission Overview
Florida Gas Transmission Overview
Who is Gulfstream?

- The Gulfstream Natural Gas System was placed into service in May of 2002, Gulfstream is partnership between Williams, legacy Spectra Energy (Enbridge) and their respective affiliates. The 745-mile interstate transmission pipeline delivers clean-burning natural gas across the Gulf of Mexico to meet Florida’s rapidly growing residential and power needs.

The Company’s gas pipeline businesses consist primarily of Transcontinental Gas Pipe Line Company, LLC (Transco) and Northwest Pipeline LLC (Northwest Pipeline). Transco and Northwest Pipeline owned and operated a combined total of approximately 13,600 miles of pipelines.

- In February 2017, Enbridge Inc. and Spectra Energy Corp closed their merger transaction. They currently operate over 34,410 miles of interstate/international natural gas pipelines.

- In 2002, Gulfstream became the first new natural gas pipeline to serve Florida in more than 40 years, with a total cost of over $2 billion including expansions.
Gulfstream Overview
Gulfstream Overview

Pipeline:
- 419 miles of offshore pipeline to Tampa Bay
- 294 miles of onshore pipeline across Florida
- Compression in Alabama and Florida

Mainline placed in-service June 1, 2002, flowing pressure up to 1480 psi

Largest pipeline in Gulf of Mexico, flowing pressure up to 2180 psi in the gulf

Provide 1.31 billion cubic feet of gas per day
- Enough natural gas to meet electricity needs of over 4.5 million Florida homes
Gulfstream Overview
Who is Sabal Trail Transmission?

- Sabal Trail Transmission, LLC ("Sabal Trail"), a joint venture of Spectra Energy Partners, NextEra Energy, Inc. and Duke Energy, is a 517-mile interstate natural gas pipeline providing transportation services for power generation needs to Florida Power and Light ("FPL") and Duke Energy of Florida ("DEF").
- Sabal Trail is capable of transporting over 1 billion cubic feet per day or more of natural gas to serve local distribution companies, industrial users and natural gas-fired power generators in the Southeast markets.
- Sabal Trail's Phase I facilities were placed into full commercial service on July 3, 2017. The full Phase I capacity of the Sabal Trail pipeline is 830,000 Dth/day over nearly 517 miles of interstate natural gas pipeline. The Sabal Trail pipeline route encompasses four counties in Alabama, nine counties in Georgia and 13 counties in Florida.
Today’s Agenda

- Pipeline Facilities
- Locating Pipelines
- Hazardous Conditions
- Excavator Responsibilities
- Pipeline Personnel
Natural Gas Pipelines

- Transmission pipelines known as the “interstate highway” for natural gas.
- High-strength, large-diameter steel pipe.
- Range in diameter from 3 to 42 inches.
- Safely moves trillions of cubic feet of natural gas from producing regions to market.
- Supply natural gas to local distribution companies, public utilities, and power plants.
Natural Gas Pipelines

• **High-priority subsurface installations** are underground transmission or distribution pipelines used to transport any refined petroleum / hydrocarbon products / gases or hazardous / highly volatile liquids.

• **Positive response code “2C Marked with Exceptions”** is often used if excavation is within 15ft of a high priority subsurface installation.
Gas is transported at high pressure using compression (up to 1480 psi).

Located approximately every 75 miles.

Large turbines, motors or engines pressurize the gas and move it through the pipeline.

19 compressor stations in Florida.
Compressor Stations

- All compressor stations are monitored – and some are even controlled remotely – by highly trained personnel at a centralized gas control center.
- Compressor stations use a variety of systems to protect the public. Every station has an emergency shutdown system that stops the compressor units and isolates and vents the station gas piping.
- Regulations require that compressor stations periodically test or perform maintenance on the emergency shutdown system to ensure reliability.
Compressor Stations
The “city gate” is the point where a distribution company receives gas from a transmission pipeline.

Local utility reduces the operating pressure and typically adds odorant bringing natural gas service to homes and businesses.
Mainline Valves

- Shut-off devices designed to stop the flow of gas.
- Some are manually operated, while others are either automatic or operated by remote control.
- Located **about** every 15 miles along the pipeline.
- Valves should only be operated by qualified company personnel only.
Lateral Line Block Valve

- Approximately 15 miles apart.
- Allows isolation of pipe section.
- Allows blow down “venting”.

Image of Lateral Line Block Valve
Pipeline Markers

- Transmission pipelines normally follow well-defined easements, and some share the same utility corridor.
- Pipeline markers alert you to the presence of pipeline.
- Markers contain the name of the operator, emergency contact information, product and caution.
- Markers are located near road, rail, fence, water crossings & curbs.
- Markers do not necessarily represent the exact location of the pipeline facilities within the easement.
- Markers or signs should never be removed or relocated by anyone other than company personnel.
Pipeline Markers
Locating Pipelines

- Free service – that we do every day.
- Assists excavators in marking the location of underground pipelines as well as other utilities.
- Notification is required by state law. Failure to notify could result in fines. Requires two (2) full business days notice.
- Transmission gas lines are designated: “High Priority Subsurface Installations.”

Sunshine811:
(800) 432-4770 or 811
Natural Gas

Composition
- Natural gas is a naturally-occurring hydrocarbon mixture.
- After processing, it is composed mostly of methane (about 94-98%) and also contains ethane (about 1-4%).

Properties
- *Non-Toxic*: Natural gas is non-toxic. The fuel is listed as a “hazardous material” due to its flammability, not due to its toxicity.
- *Lighter than Air*: Natural gas is 40 percent lighter than air. When natural gas escapes into an open area, it rises into the air and dissipates, although gas odorant is heavier than air and may still sink to the ground.
- *Odorless*: Natural gas is a colorless, odorless substance in its natural state. The smell of rotten egg often associated with natural gas is normally due to an odorant (mercaptan) that is added by the pipeline company or local distribution company.
Properties

- **Asphyxiant**: Suffocation can occur if natural gas displaces the oxygen in an enclosed area where it will collect first near the ceiling.

- **Ignition Temperature**: Natural gas has a very high ignition point - nearly 1200 degrees Fahrenheit. However, static electricity, pilot lights, matches, and sparks from telephones, electric motors and internal combustion engines can easily reach this temperature and ignite natural gas.

- **Combustion Products**: There are no significant releases of harmful compounds as a result of natural gas combustion. However, incomplete combustion may produce carbon monoxide and warrant the use of self-contained breathing apparatuses by emergency response teams.
Hazardous Conditions

- Due to the large volumes and high pressures, accidents involving natural gas transmission pipelines can be dangerous.
- There are two primary hazardous conditions you should be aware of:
  - Encroachment (excavation activities)
  - Rupture
Hazardous Conditions could lead to …
Hazardous Conditions could lead to ...
If you notice excavation near a pipeline right of way, check to see if the contractor has notified the pipeline company or one-call about their work.

Nearly 2/3 of fatalities involving pipelines are due to damage from outside forces.
Encroachment
Encroachment
Encroachment
Encroachment
Encroachment
Leak(s)

- Odorant is added at only certain places along the pipeline, so you may not always be able to detect a leak by smell.
- Odorant is heavier than air, therefore the strong smell of natural gas does not always mean that methane is present. Always use a detection instrument to determine if natural gas is present.
The following signs can be an indication of a natural gas pipeline leak:

- Dust, water, or vegetation blowing around a pipeline
- Discolored or dead vegetation near a pipeline
- A hissing sound
- Bubbling in a wet area, marshland, river or creek
- A dry spot in a moist field
If you become aware of a leak, look for the nearest pipeline marker and call the emergency phone number listed.
More dramatic indicators.

- Loud *roaring* sound of escaping gas.
- Doesn’t always lead to a fire, but if it does, the resulting explosion produces large flames burning at high temperatures.

- Fire and emergency officials should be aware of the potential for secondary *fires* and disturbed earth in the vicinity of a rupture.
The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response. It is a component of the National Incident Management System (NIMS) in the US, where it is used in all-hazards situations, including HazMat. The Incident Command System comprises five major functional areas: Command, Operations, Planning, Logistics, and Finance/Administration.
In response to a pipeline emergency, our focus when an emergency occurs is to secure the safety of the public as well as our assets and equipment.

We are the people on site to handle the gas in a safe manner and supply incident command with information of plans during an incident.
Response

- Park vehicles a safe distance from the incident and turn off engines.
- Clear the area around the site and evacuate people to an upwind location.
- Provide first aid and call for additional emergency medical assistance if needed.
- Barricade the area and keep onlookers a safe distance away.
- Keep roads to and from the site clear for emergency and pipeline personnel.
Response

- Do not attempt to extinguish the gas fire with water or other chemicals (*high probability of re-ignition and explosion*).
- The best method to control a gas-fed fire is to stop the flow of gas.
- *Never attempt to operate pipeline valves.*
- Extinguish perimeter fires and wet down exposed flammable areas in the vicinity. Radiant heat from the gas fire is intense and can cover a large area.
Response
Response
# Minimum Evacuation Distances

**Figure 2.3-1: Recommended Minimum Evacuation Distances**

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**Source:** Pipeline Association of Public Awareness
A High Consequence Area (HCA) for natural gas transmission pipelines focuses solely on populated areas.

US Pipeline safety regulations use the concept of “High Consequence Areas” (HCAs), to identify specific areas where a leak could have the most significant consequences. Once identified, operators are required to devote additional focus, efforts, and analysis in HCAs to ensure the integrity of pipelines.
Pipeline Personnel

- Trained for pipeline emergencies - can supply you with information regarding the facilities involved in the incident.
- Pipeline response team will stop the flow of gas to the accident site.
- Damaged section is isolated by closing valves on either side of the rupture.
- Any fire will burn itself out once the fuel is consumed and the remaining gas will be *vented to the atmosphere.*
Pipeline emergencies require coordination of information and resources among the various players in order to safely and efficiently resolve the situation.

Florida Gas Transmission, Gulfstream Natural Gas and Sabal Trail Transmission system’s response protocol are all based on the National Incident Management System.
Things to Remember

- LEL-UEL of Natural Gas is ~ 4%-16%
- Stopping the flow of gas is the BEST method of controlling a gas-fed fire
- DO NOT attempt to operate pipeline valves
- Florida Gas Transmission’s 24-Hour Emergency Gas Control Center 800-238-5066
- Gulfstream Natural Gas System’s 24-Hour Emergency Gas Control Center 800-440-8475
- Sabal Trail Transmission’s 24-Hour Emergency Gas Control Center 888-568-7269
- Always refer to your agency’s Policies and Procedures for Emergency Response guidance
- Know what pipelines are operating in your AO
To Learn More

...about pipelines operating in your jurisdiction

- Visit the National Pipeline Mapping System (NPMS) at www.npms.phmsa.dot.gov
- Created by the Department of Transportation / Pipeline
- and Hazardous Material Safety Administration (PHMSA)
- Local and state emergency response officials can access data pertaining to interstate and intrastate gas and hazardous liquid transmission pipelines.
Our Commitment

We are strongly committed to operating a safe, reliable pipeline system. As part of that commitment, we strive to strengthen and expand our relationships with Emergency Responders.
If you are interested in other training opportunities, please let us know…

- Conducting Safety Meetings on a Regular Basis
- Participating in Table Top Exercises and Mock Drills
- Investigating Incidents, Focus on “Lessons Learned”
- Enhancing Incident Management Training
Emergency Contacts
FLORIDA GAS TRANSMISSION (FGT)

In case of emergency, contact our 24-Hour Gas Control group

1-800-238-5066

Operations
Rick Barrett, South Florida Region
407-468-6851
Rick.Barrett@energytransfer.com
Emergency Contacts
GULFSTREAM

In case of emergency, contact our 24-Hour Gas Control group

1-800-440-8075

Operations

James Villarreal, Operations Technician Lead
941-232-2412 (cell)
James.P.Villarreal@Williams.com
Emergency Contacts
SABAL TRAIL TRANSMISSION

In case of emergency, contact our 24-Hour Gas Control group

1-888-568-7269

Operations

Paul Lanius
407-966-2930 (office)
Paul.Lanius@enbridge.com
Questions?

Thank you for attending. We would be happy to answer any questions you may have.