TECO PEOPLES GAS
AN EMERA COMPANY

Responding to Natural Gas Emergencies

Hazardous Material Training Symposium

January 2020

1997

TECO
TAMPA ELECTRIC

2016

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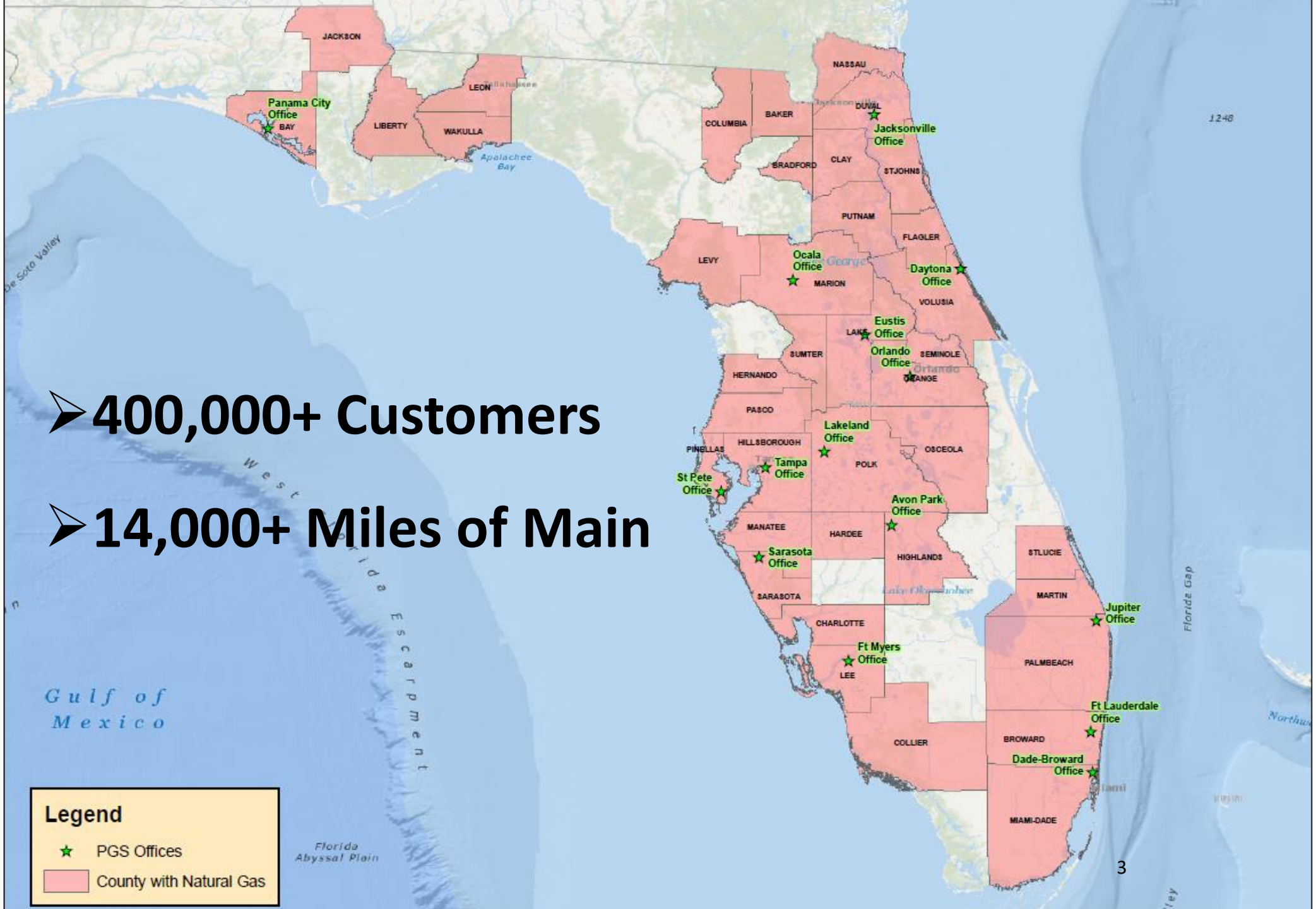
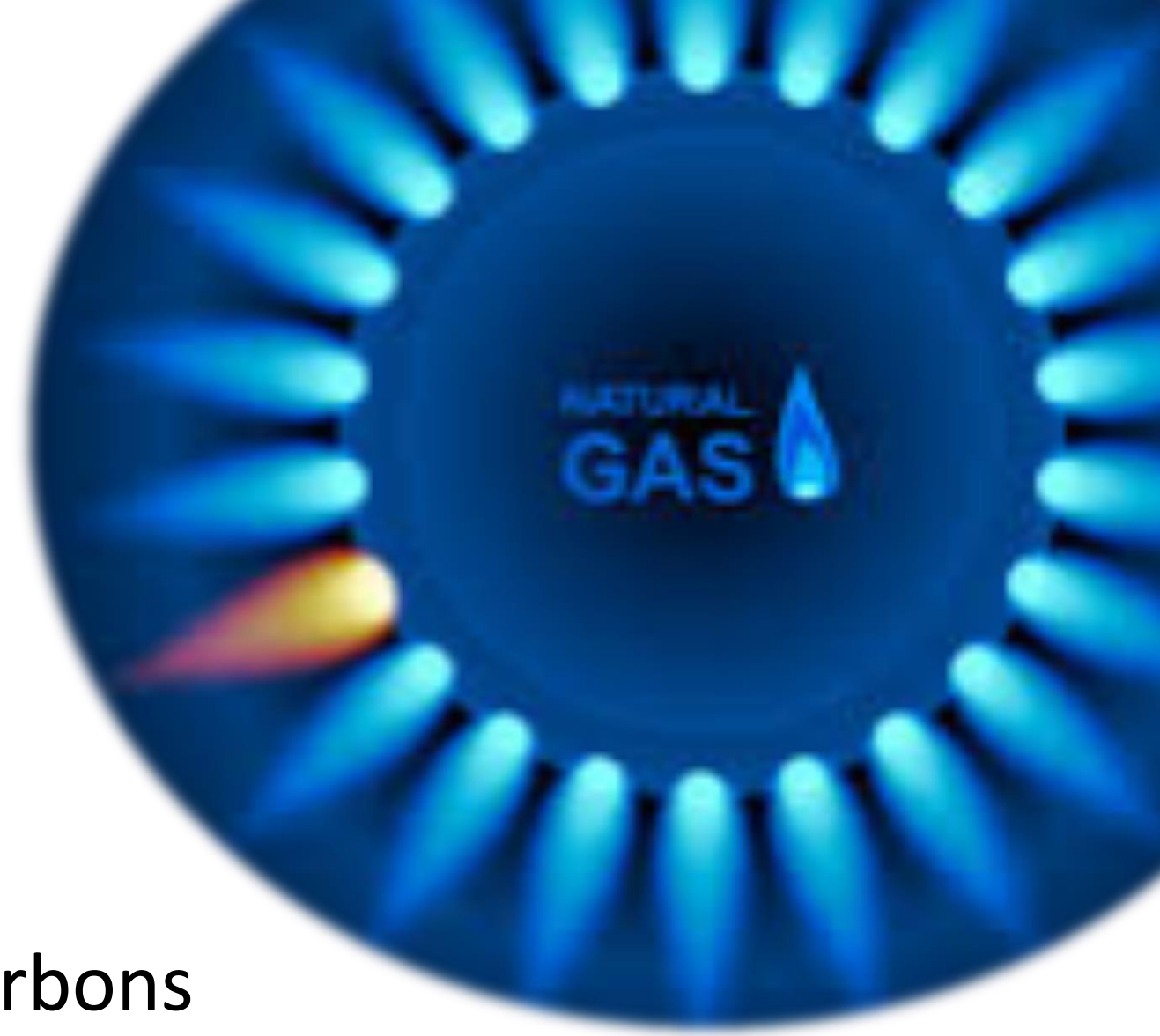

➢400,000+ Customers
➢14,000+ Miles of Main
JACKSON
Panama City Office
BAY
LIBERTY
WAKULLA
LEON
Apalachee Bay
NASSAU
COLUMBIA
BAKER
DUVAL
Jacksonville Office
BRADFORD
CLAY
STJOHNS
PUTNAM
FLAGLER
LEVY
Ocala Office
MARION
Daytona Office
VOLUSIA
Eustis Office
LAKE
SUMTER
Orlando Office
SEMINOLE
ORANGE
HERNANDO
PASCO
Lakeland Office
HILLSBOROUGH
PINELLAS
Tampa Office
St Pete Office
POLK
OSCEOLA
Avon Park Office
MANATEE
HARDEE
Sarasota Office
HIGHLANDS
STLUCIE
SARASOTA
MARTIN
Jupiter Office
CHARLOTTE
Ft Myers Office
LEE
PALMBEACH
Ft Lauderdale Office
COLLIER
BROWARD
Dade-Broward Office
MIAMI-DADE
Gulf of Mexico
West Florida Escarpment
Florida Abyssal Plain
Florida Gap
Legend
PGS Offices
County with Natural Gas

What is natural gas?

- 95% methane
- Other 5%:
  - Ethane
  - Propane
  - Water Vapor
  - Other heavier hydrocarbons



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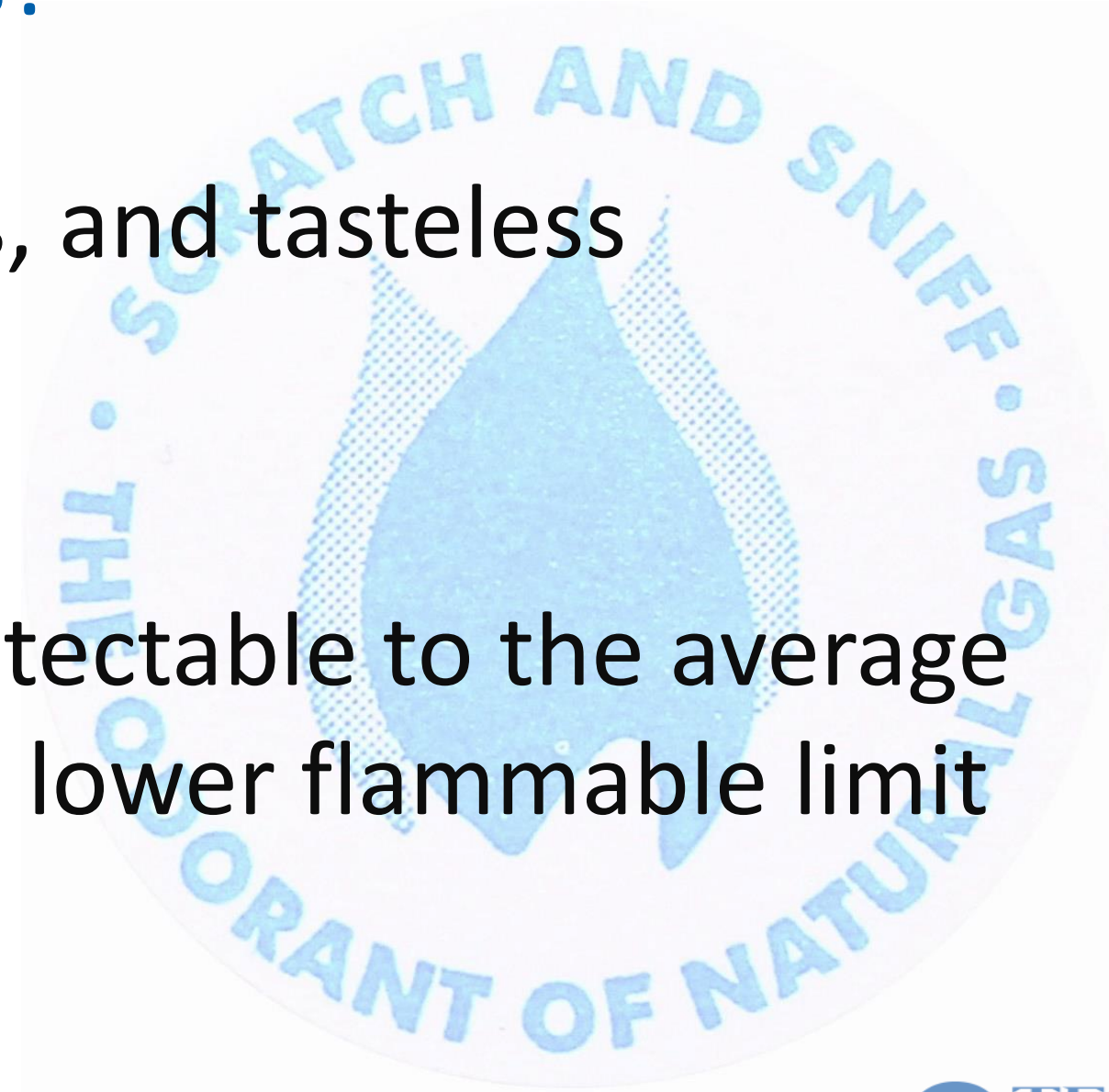
What is natural gas?

- ✓ Non-toxic
- ✓ Breathed without harm
- ✓ Simple Asphyxiant

What is natural gas?

- ✓ Odorless, colorless, and tasteless
- ✓ Mercaptan added
- ✓ Must be readily detectable to the average nose at 20% of the lower flammable limit



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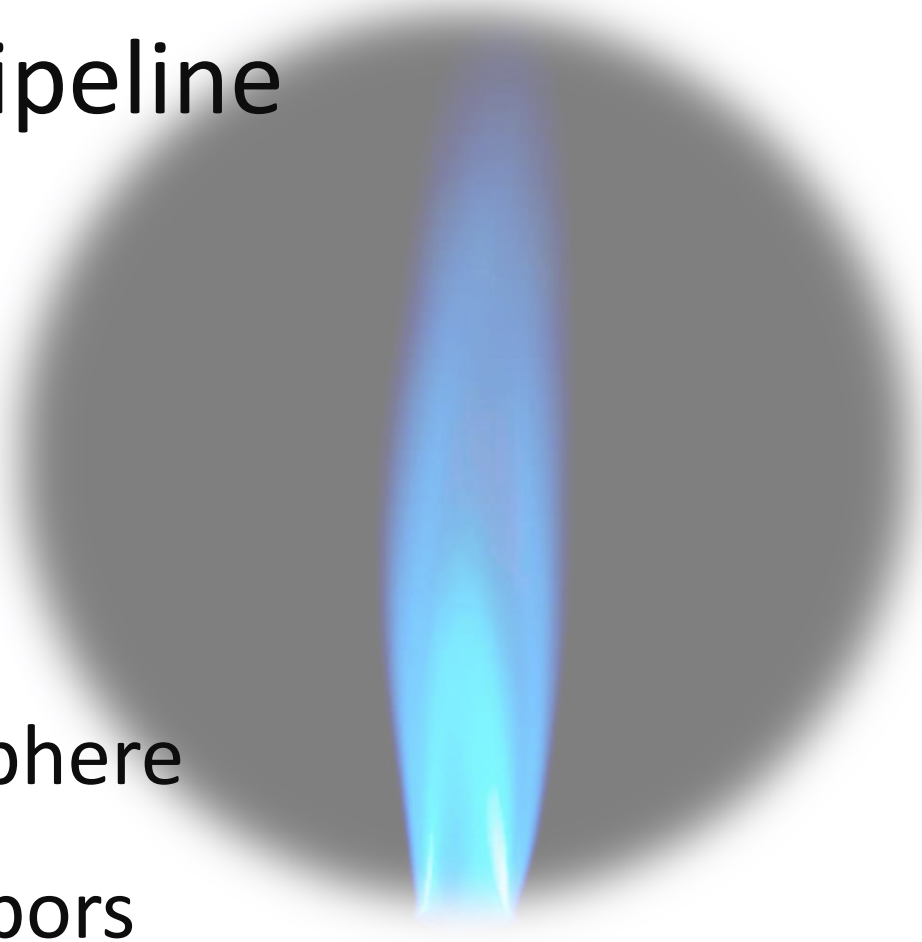
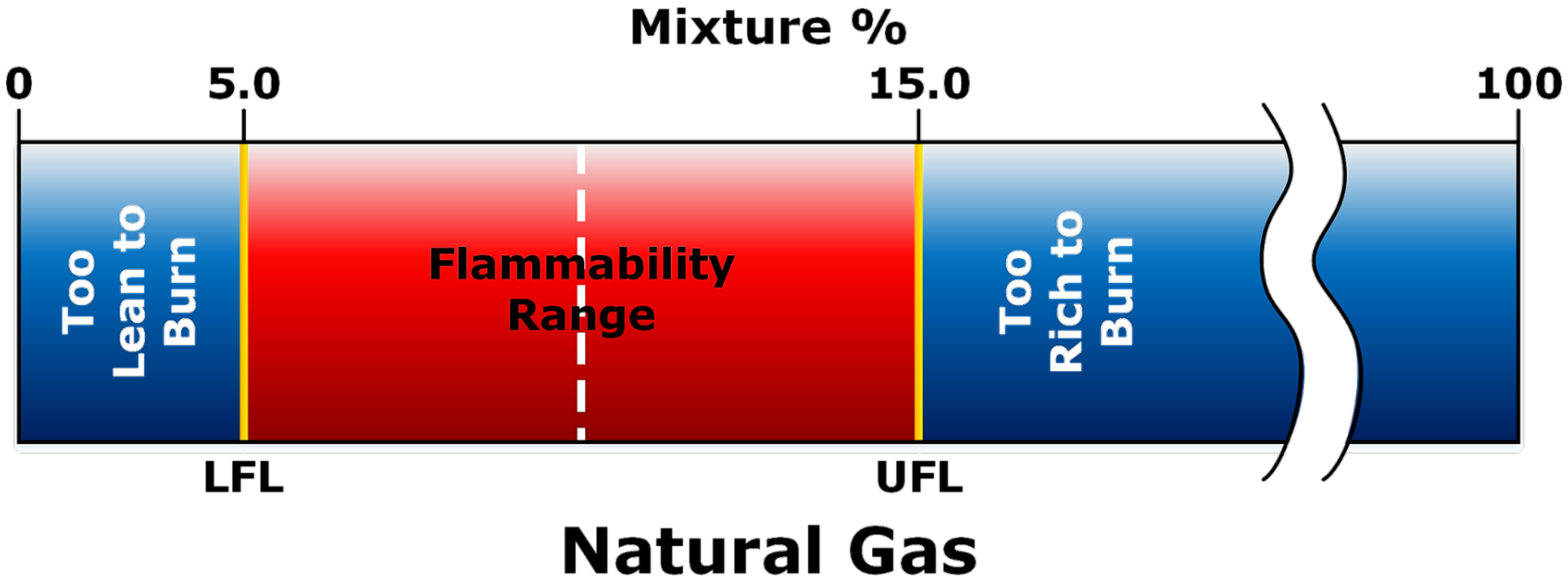
What is natural gas?

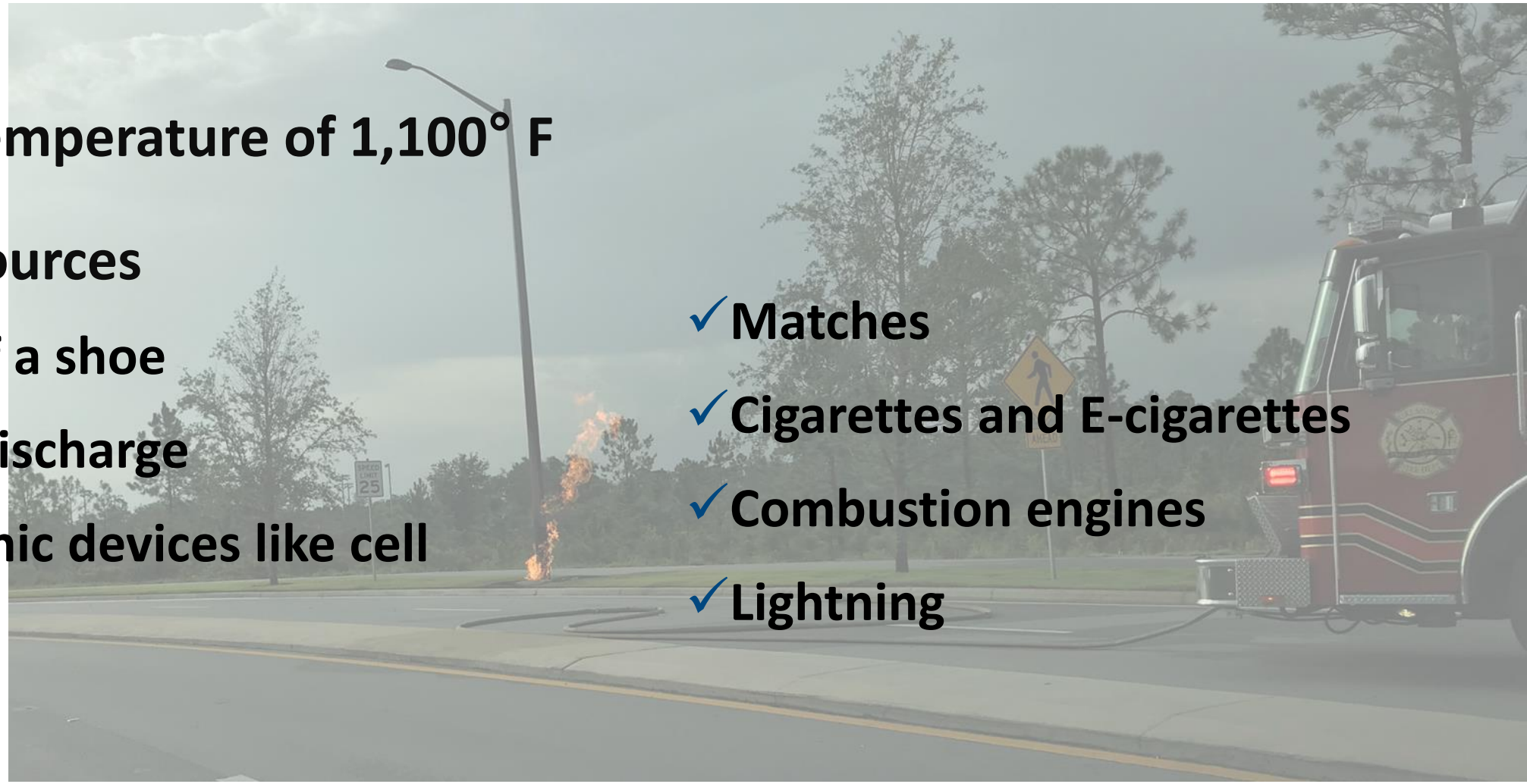
- ✓ Exists as a vapor inside the pipeline
- ✓ Boiling Point = -258° F
- ✓ Specific gravity = 0.6
  - ✓ Lighter than air
  - ✓ Quickly dissipates in the atmosphere
  - ✓ Consider wind direction and vapors



What is natural gas?

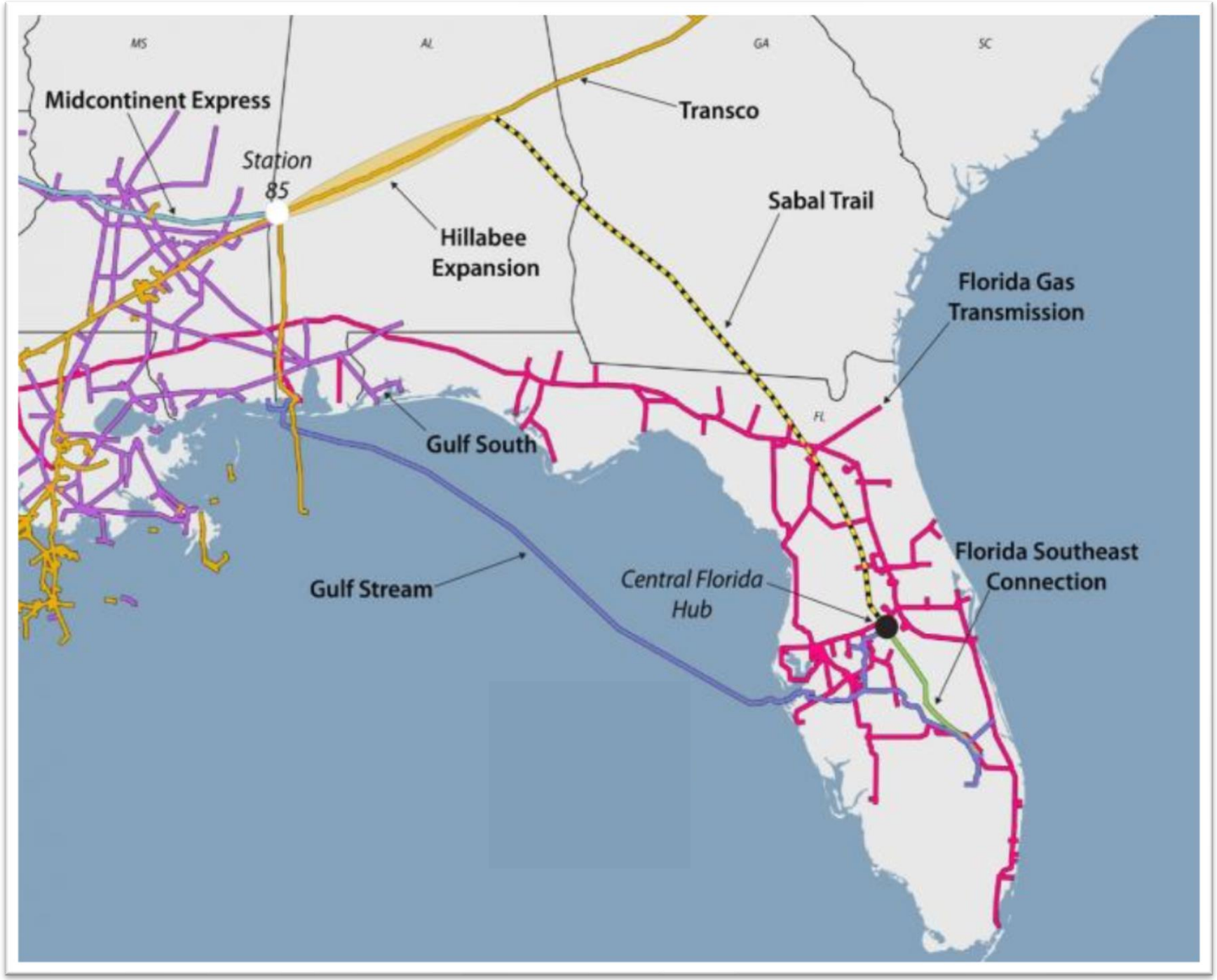


What is natural gas?

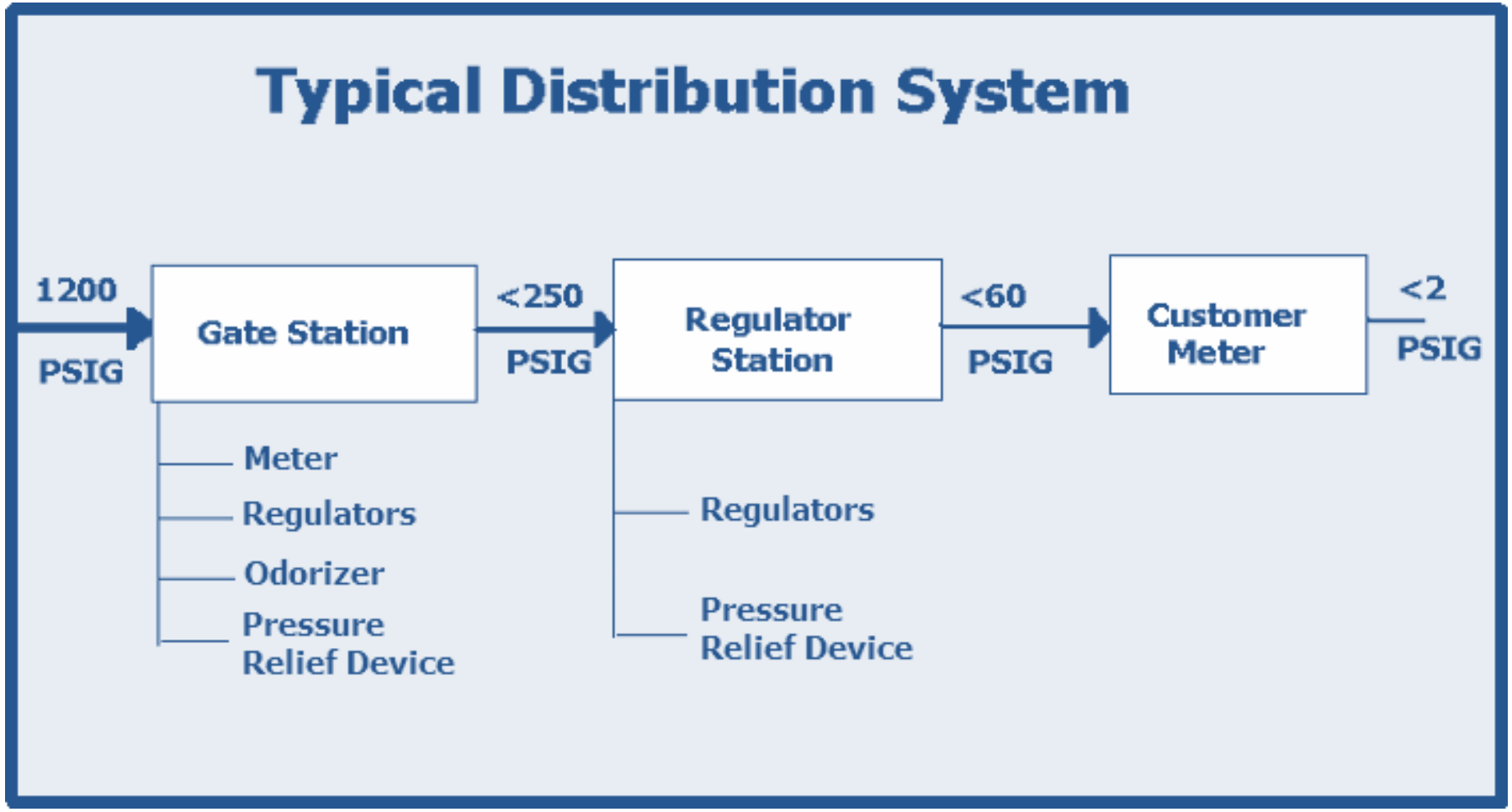


- **Ignition Temperature of 1,100° F**
- **Ignition Sources**
  - ✓**Scuff of a shoe**
  - ✓**Static discharge**
  - ✓**Electronic devices like cell phones**
  - ✓**Matches**
  - ✓**Cigarettes and E-cigarettes**
  - ✓**Combustion engines**
  - ✓**Lightning**

Natural Gas Transmission



Distribution



Distribution: Gate Station

Distribution: Plastic Pipe

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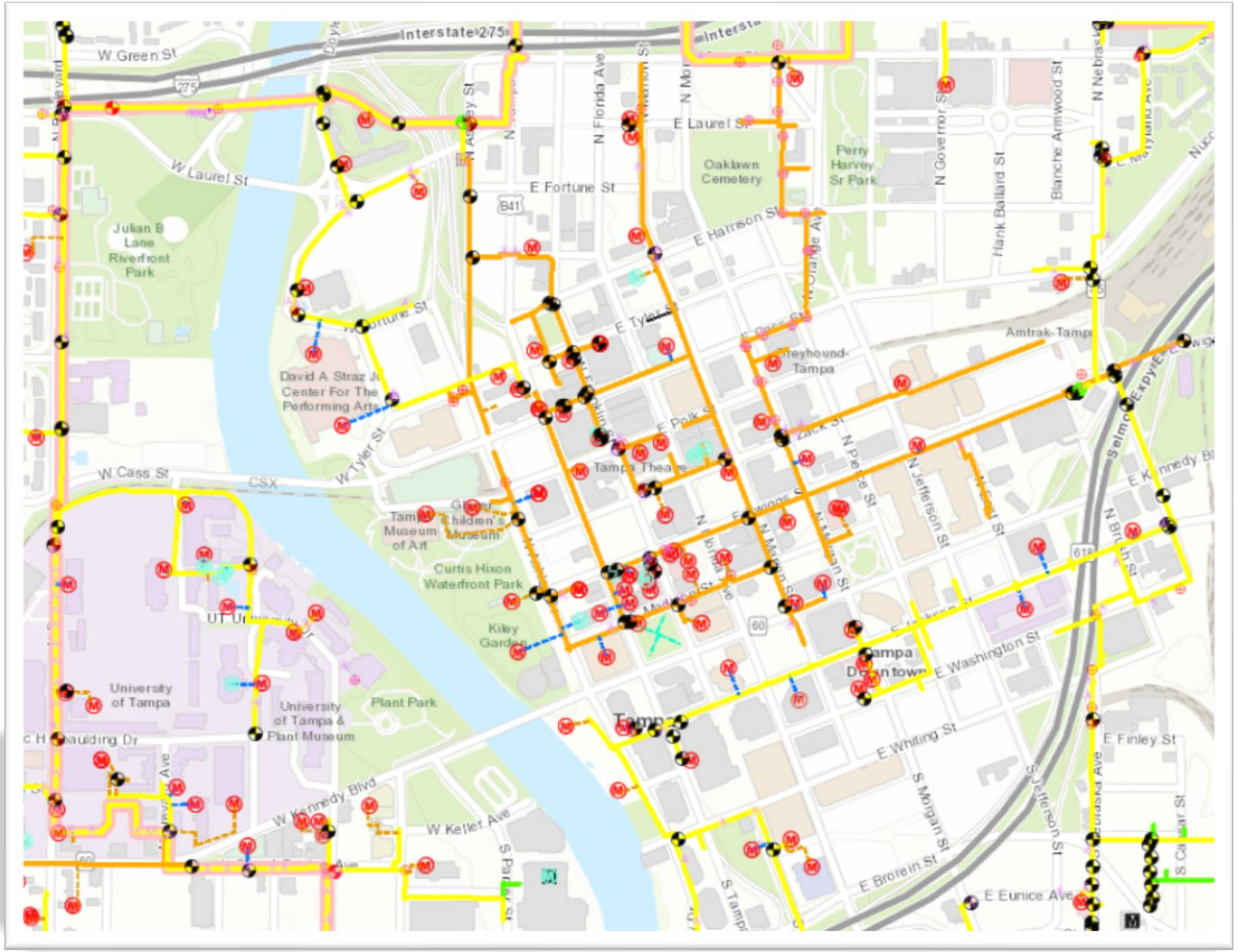
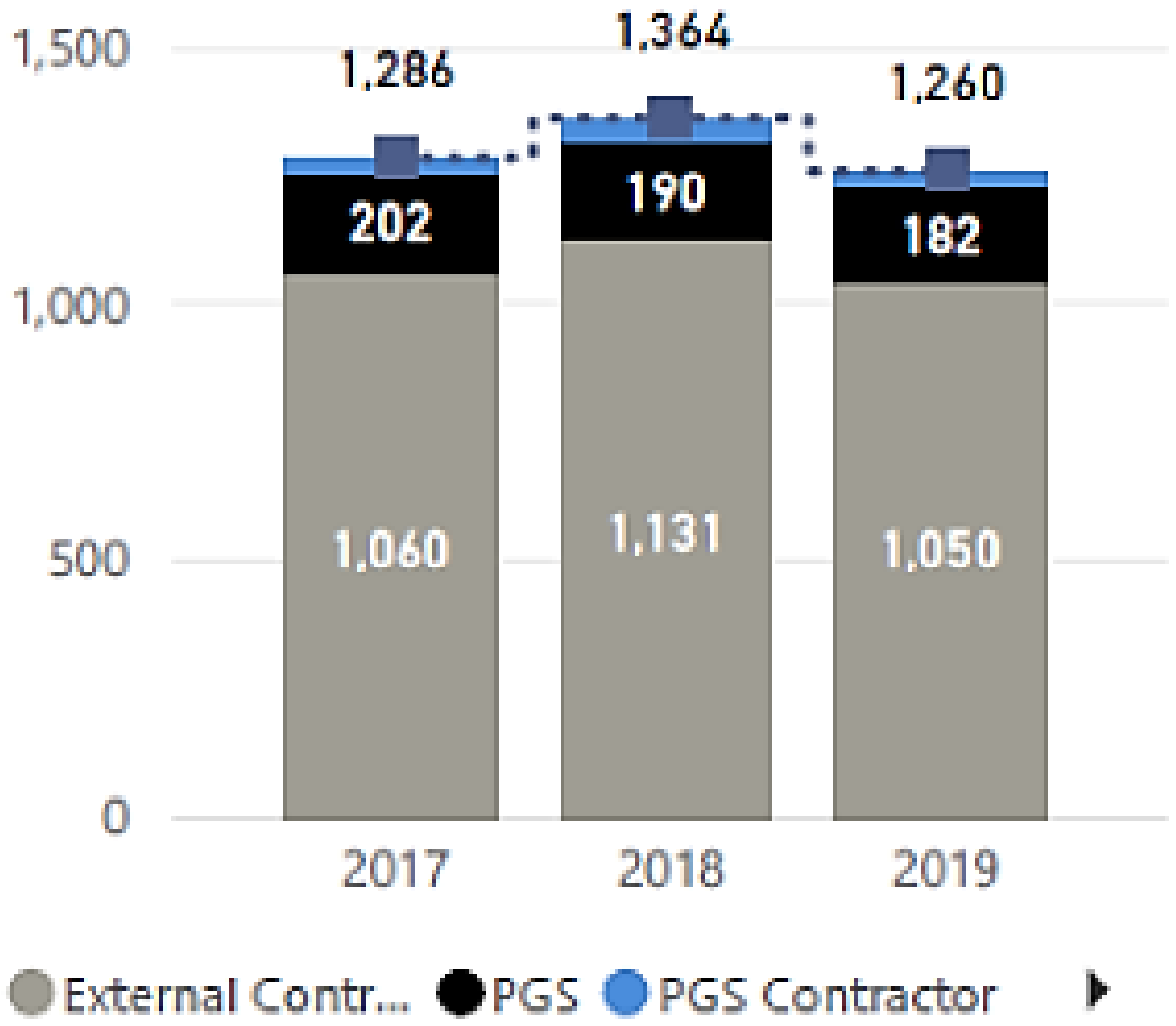
Distribution: Steel Pipe

Distribution: Reg Station

Distribution: System Map



Hit lines


Damage Reports by Year
1,500
1,000
500
0
1,286
1,364
1,260
202
190
182
1,060
1,131
1,050
2017
2018
2019
External Contr...
PGS
PGS Contractor

Call Before You Dig

- ✓ **Regulatory Requirements**
- ✓ **Accurate Info**
- ✓ **Maintaining Marks**
- ✓ **Waiting Period (Two business days)**
- ✓ **Spotting Utilities**
- ✓ **Penalties**
- ✓ **80/20 Split**

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Signs of Gas Facilities...

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Signs of Gas Facilities...

Signs of Gas Facilities...

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Signs of Gas Facilities...

Marker colors...

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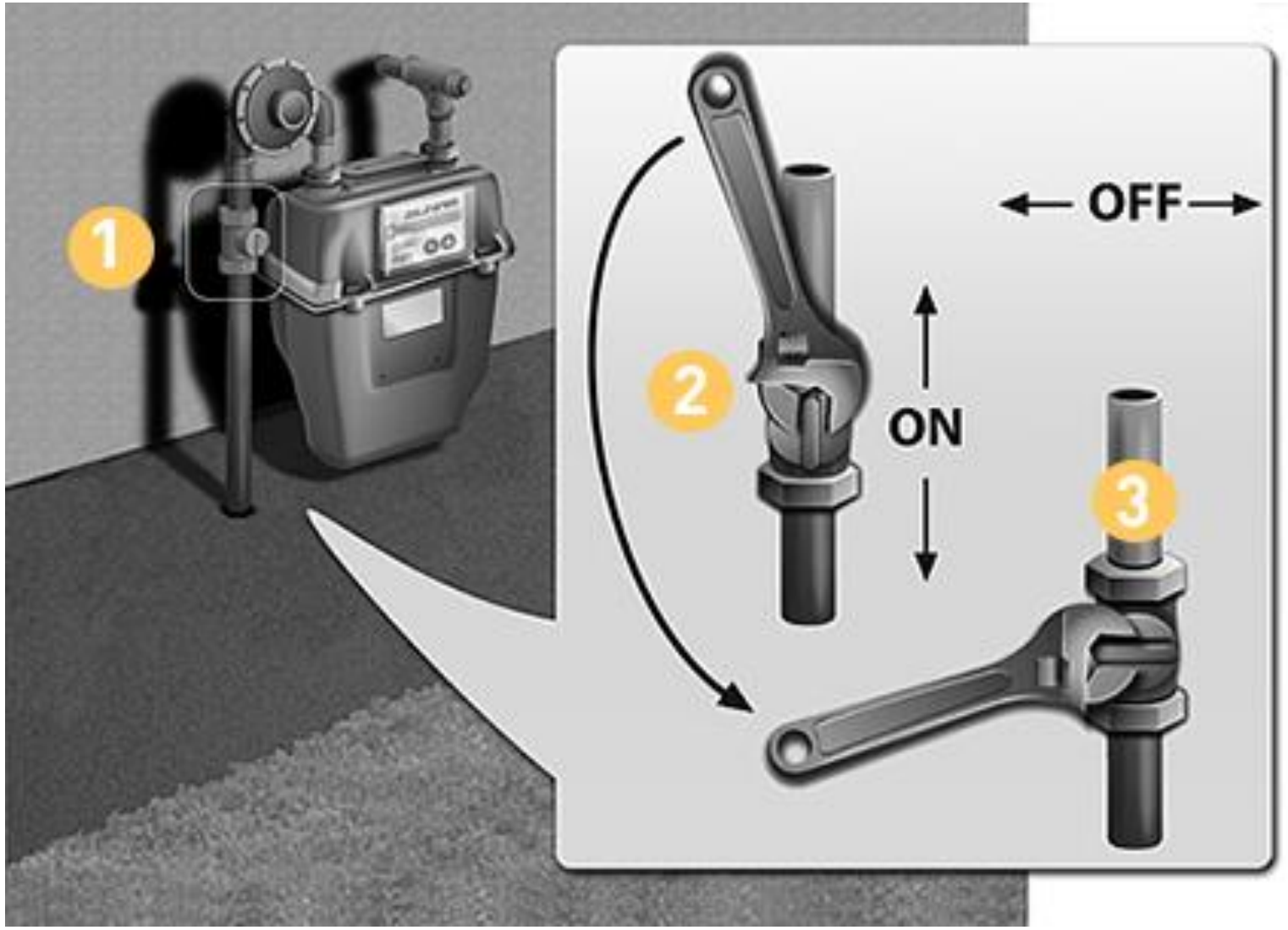
Signs of Gas Facilities...

- ✓ Paint
- ✓ Flags
- ✓ Stakes
- ✓ Offsets

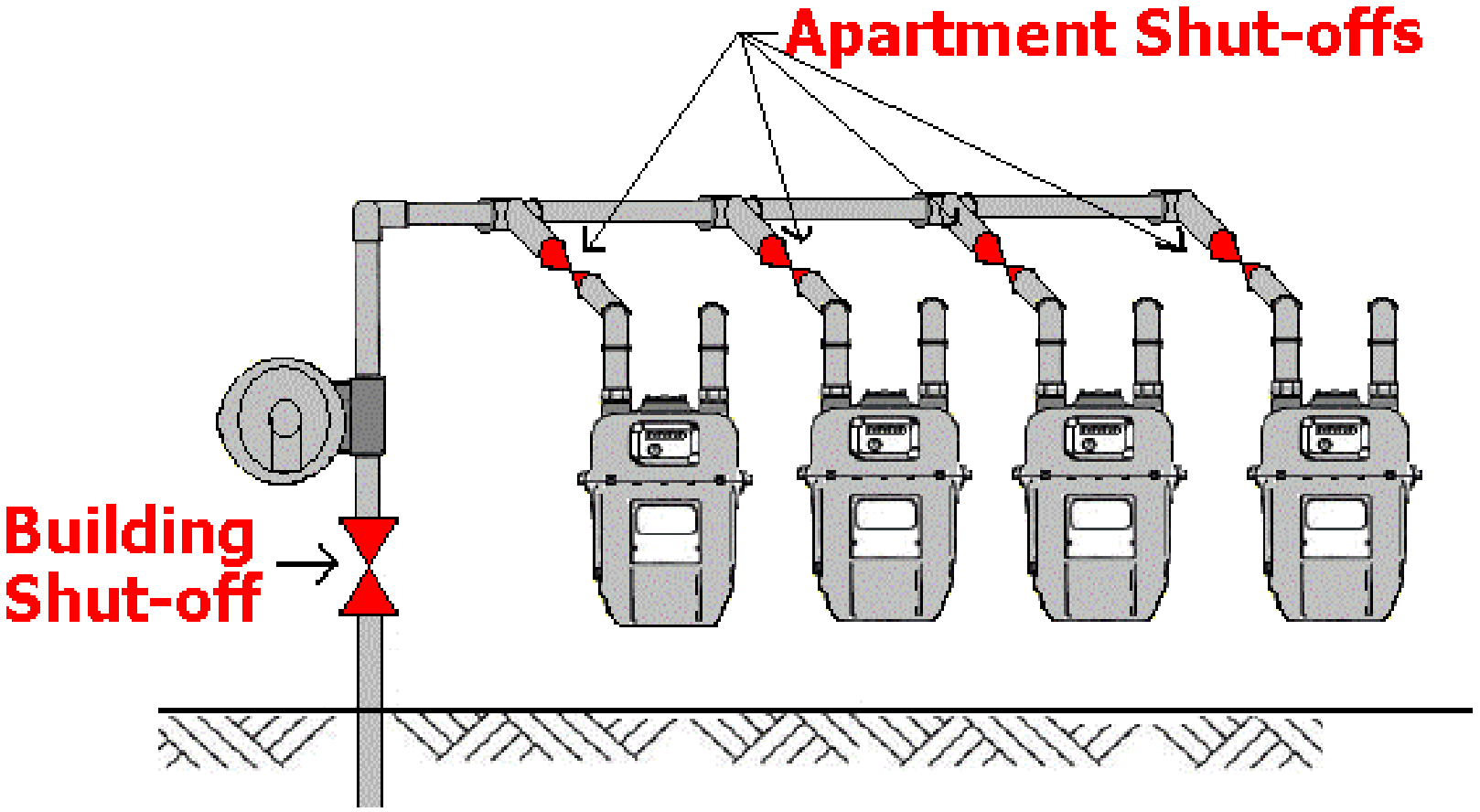
Inside Gas Leak Response

- Evacuate building
- Do not operate electrical switches
- Open windows and doors to ventilate
- Shut-off gas at meter (depending on severity)
- Do Not reopen a closed valve

Meter Shut-Off

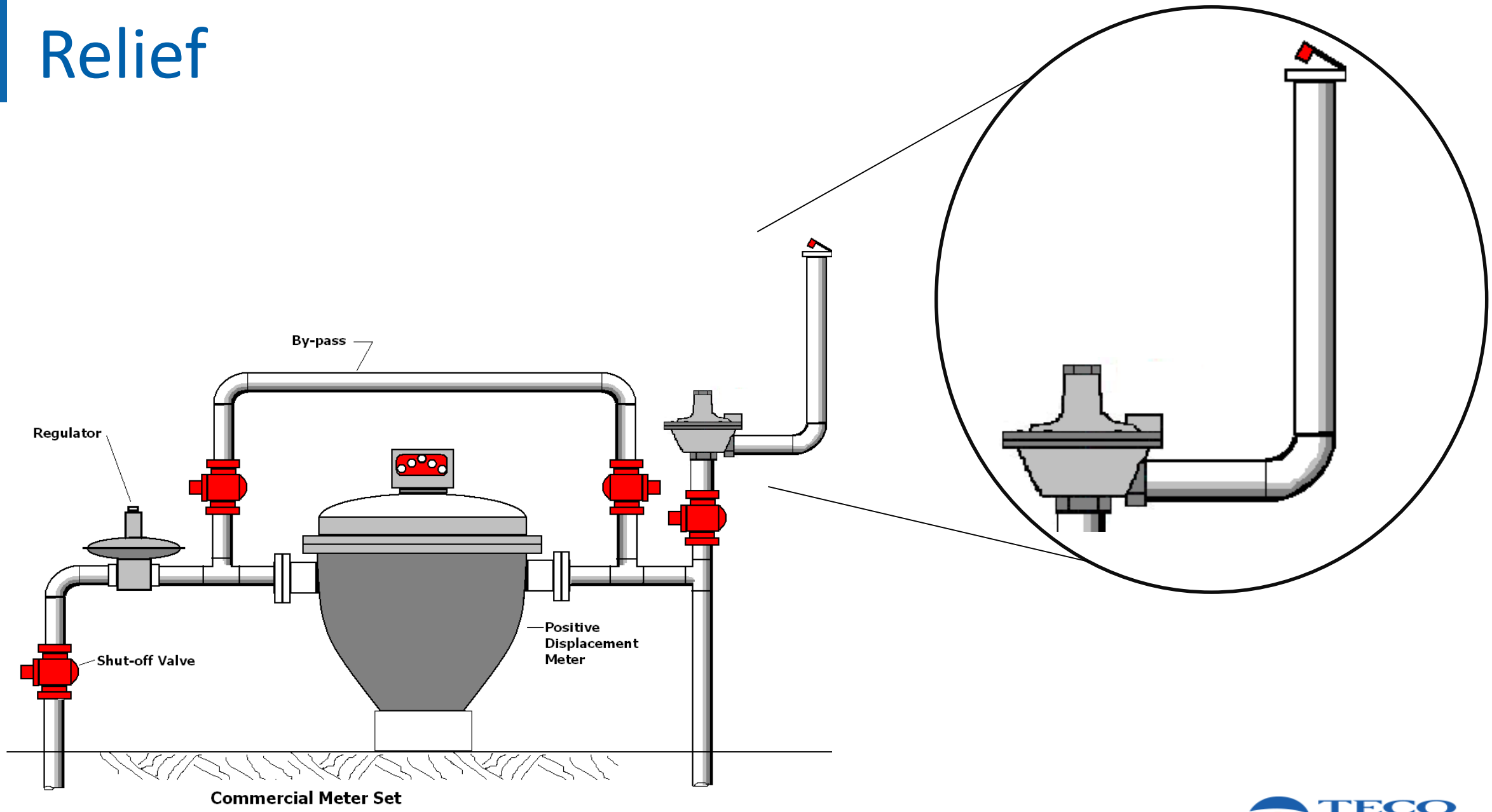


Meter Shut-Off

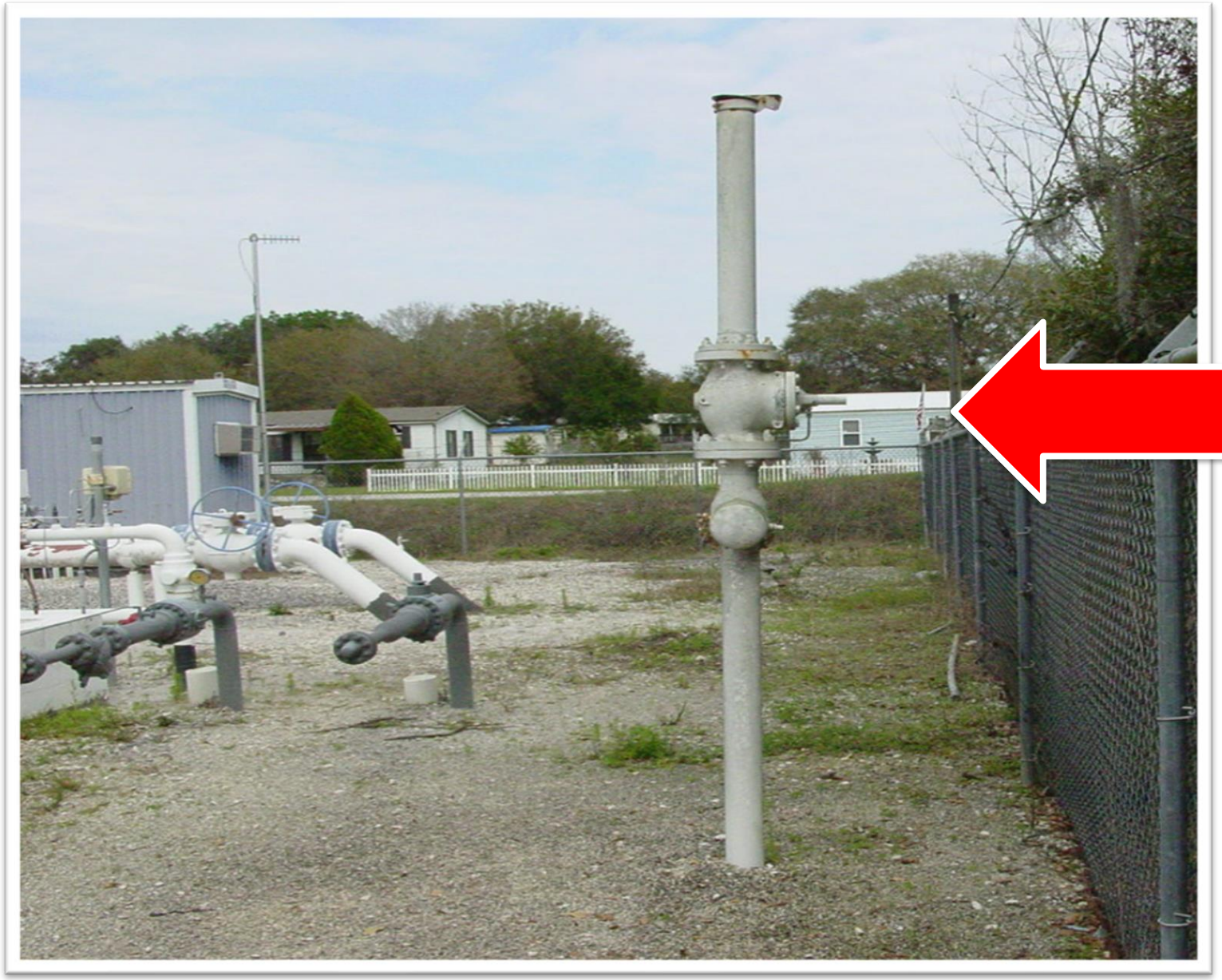


Manifold Meterset

Relief


By-pass
Regulator
Shut-off Valve
Positive
Displacement
Meter
Commercial Meter Set

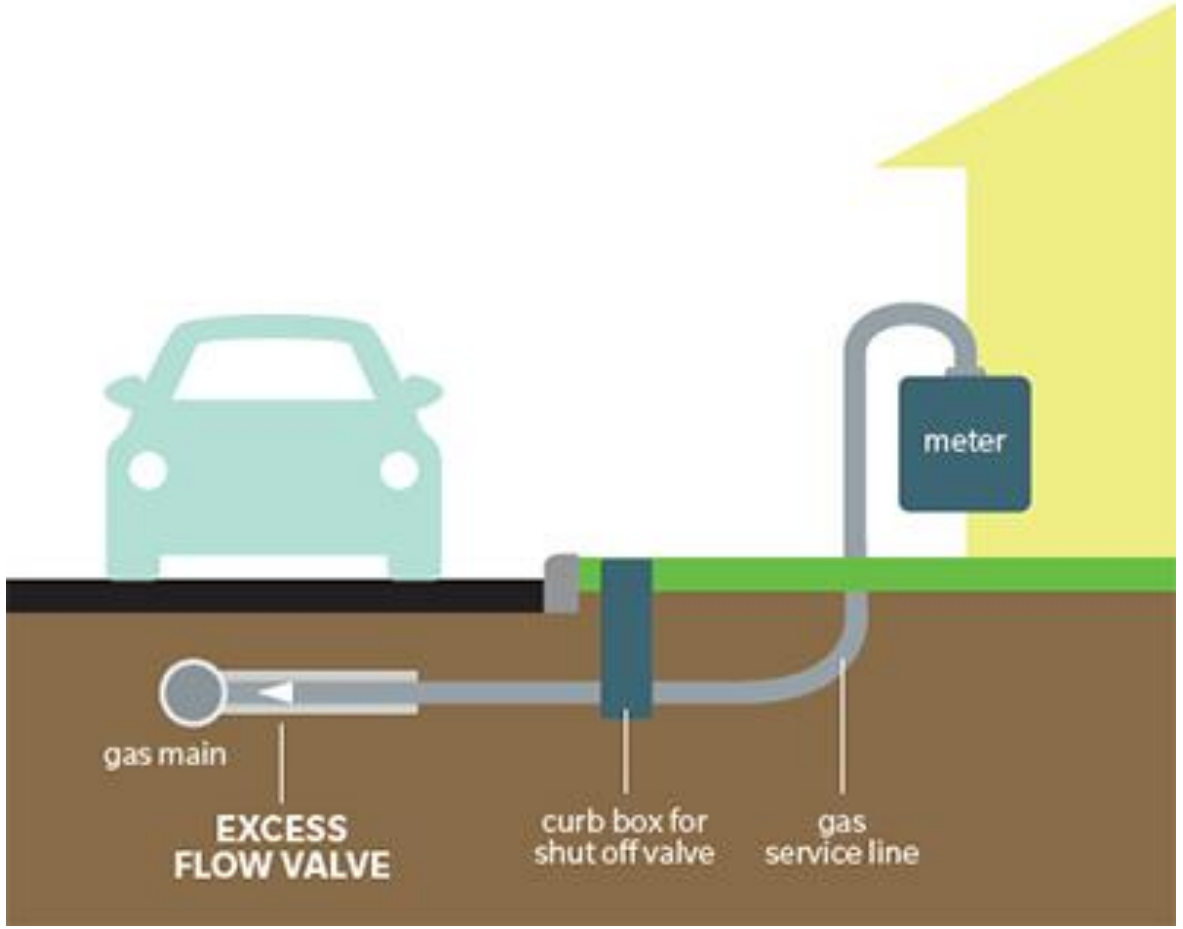
Relief



Hit Line Response

- Contact gas utility
- Evaluate risks and identify hazards
- If possible, eliminate ignition sources
- Do not operate valves, but if it occurs do not reopen!
- Establish a safe zone around the leak
  - ✓ Do not let anyone inside
  - ✓ Do not allow ignition sources inside
  - ✓ Evacuate businesses and residences
  - ✓ Establish traffic control

Excess Flow Valve (EFV)



Adding water...

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Combustible Gas Indicator...

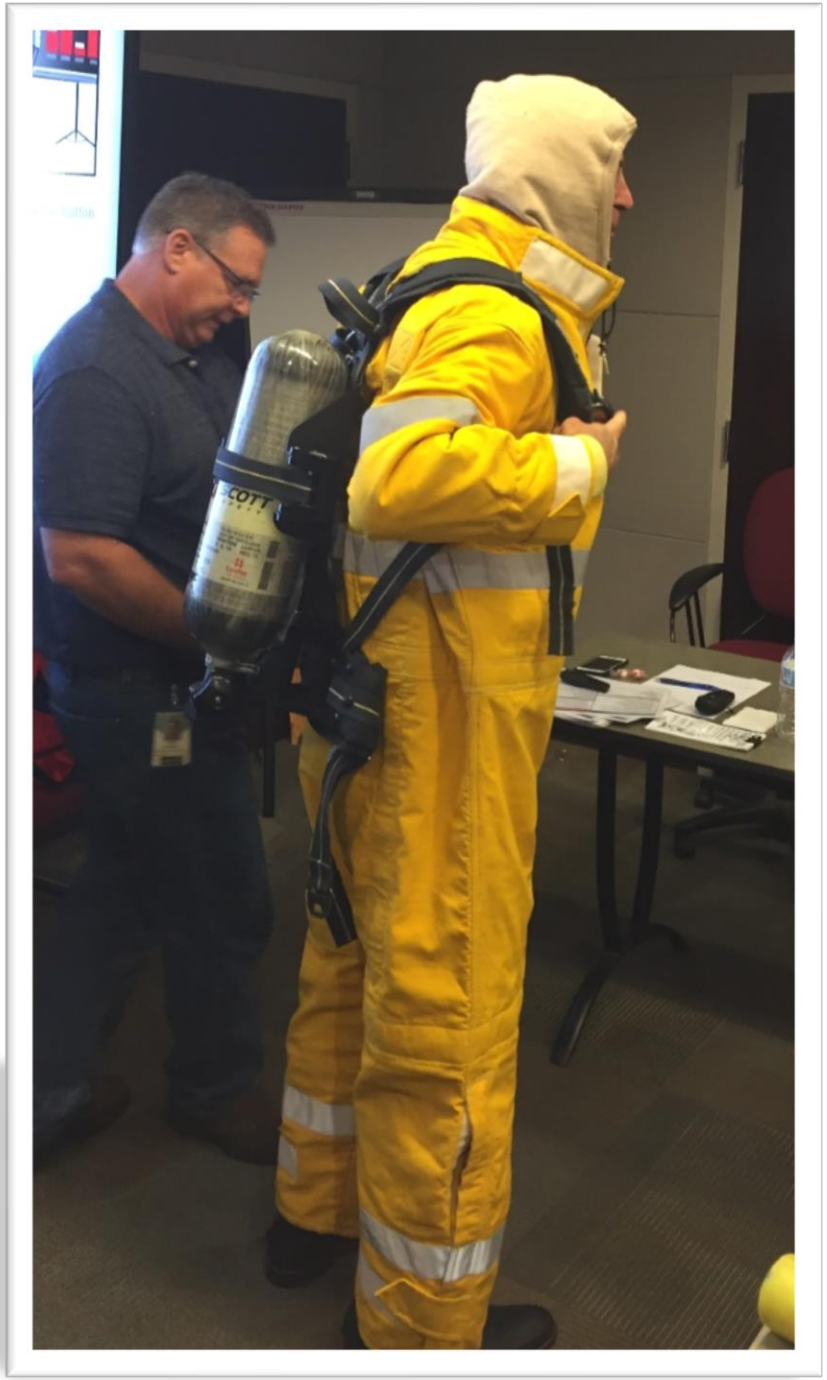
Static Electricity

- Oklahoma Incident

- Static Mitigation
  - Wet Burlap
  - Static Spray

Make Safe Operations

- PGS Emergency Response
  - Hot Zone
  - PPE

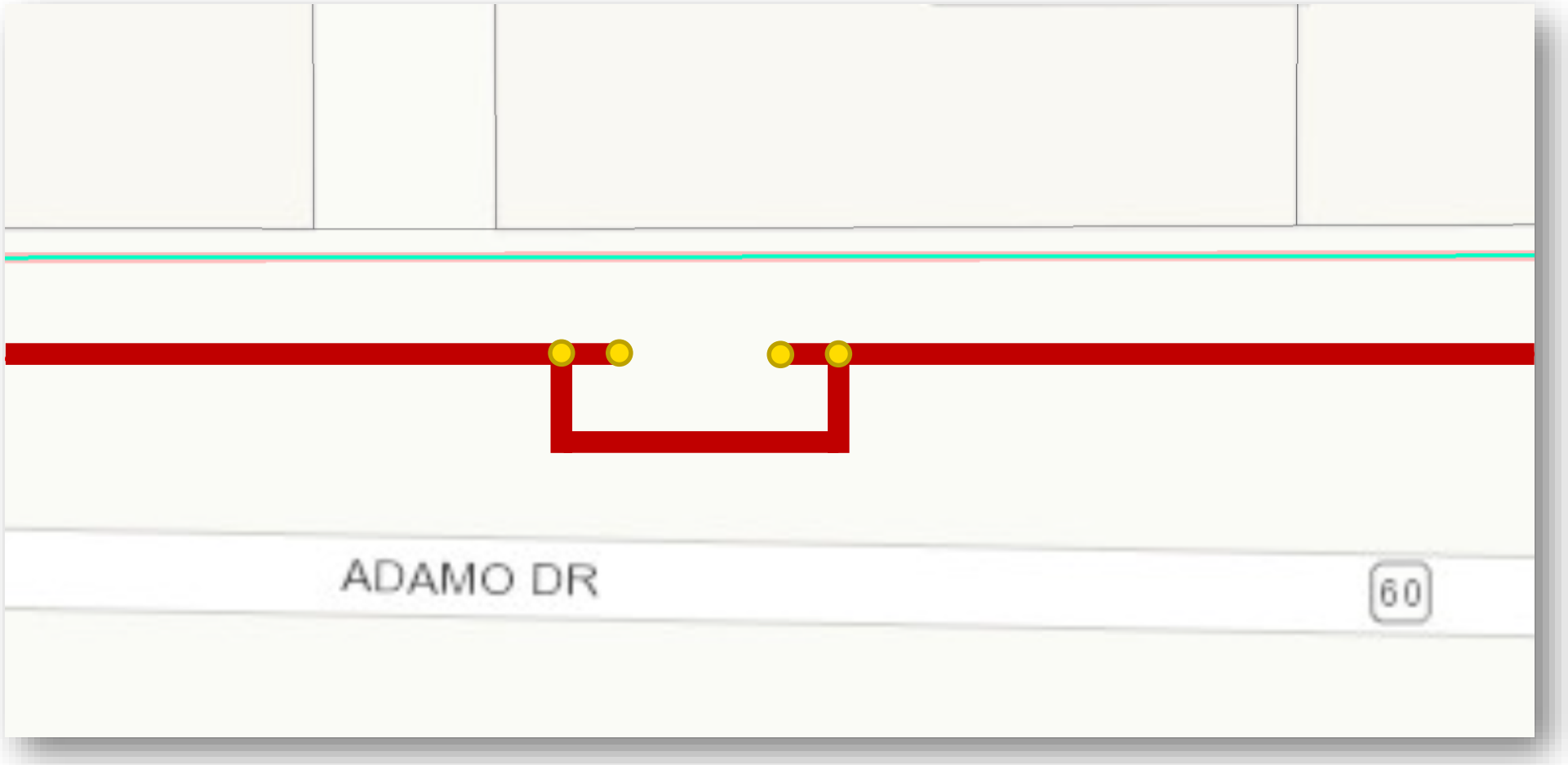


Make Safe Considerations

- ✓ Public safety (migration, evacuations, etc.)
- ✓ Damaged facility
- ✓ Number of feeds
- ✓ Pressure
- ✓ Impact to customers
- ✓ Options other than hot zone entry

Make Safe Options: Line Pack

Make Safe Options: By-pass



Make Safe Options: CNG

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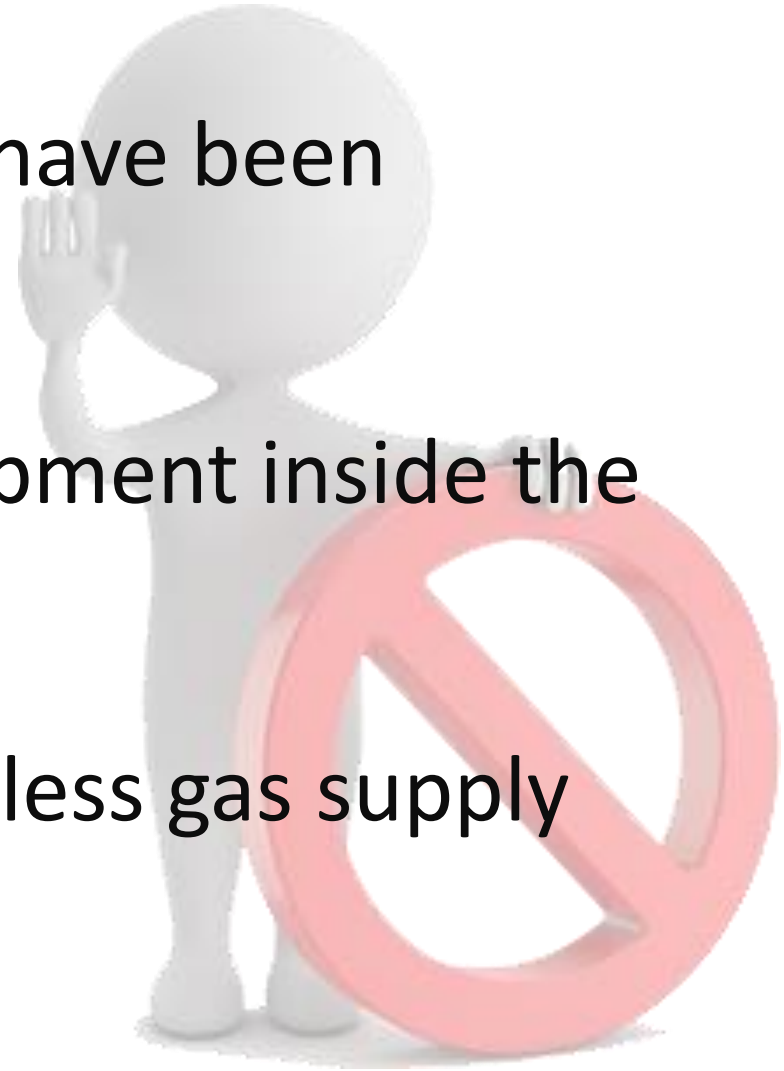
Make Safe Options:
Squeeze & Clamp

Make Safe Options:
Post Storm

Make Safe Considerations: Ignition

- DO NOT operate valves, but if valves have been operated, DO NOT reopen!
- DO NOT attempt to operate any equipment inside the safe zone.
- DO NOT attempt to extinguish fire unless gas supply can be shut-off.



Compressed Natural Gas

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Normal Operations

- Two PGS call centers in Florida
- On-call employees available 24/7
- GOAL: Emergency response within 60 minutes