INFRASTRUCTURE RELIABILITY PROJECT

COMPRESSOR STATION

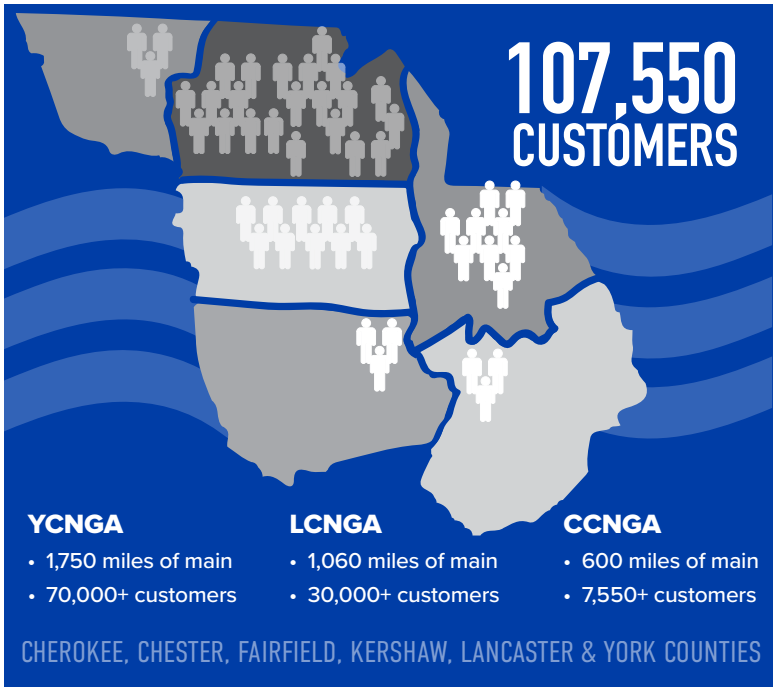
Patriots Energy Group

QUICK FACTS ABOUT THE PEG NATURAL GAS SYSTEM:

PEG pipeline consists of approximately **69 MILES** of transmission pipeline infrastructure

INCLUDES **3,410 MILES** of mainline within the collective distribution systems (AS OF JANUARY 2020)

Annual natural gas throughput over **14,800,000 DEKATHERMS** (AS OF OCTOBER 2021)



Patriots Energy Group (PEG) is a joint action agency under South Carolina law, organized as a public body and body corporate and politic in 2003 under the South Carolina Joint Agency Act. PEG owns and operates a natural gas pipeline and associated assets (infrastructure) that support the gas distribution functions of its three members, which were created by the State of South Carolina in 1954 and commenced natural gas service in 1957: Chester County Natural Gas Authority (CCNGA), Lancaster County Natural Gas Authority (LCNGA), and York County Natural Gas Authority (YCNGA). These retail gas utilities operate within their respective service territories. Rates and services are established by a local board. Members are selected by regional elected officials and appointed by the Governor. The Authorities use net revenue to provide natural gas utility service and expand gas infrastructure and have no taxing authority.

With robust growth in the region, PEG is continually evaluating strategies and system upgrades to meet future market demand while maintaining system reliability and cost efficiency.

The three Member Authorities share a common interest that is best solved by working together. The Members are able to decrease prices and increase reliability by diversifying sources and supplies through a portfolio of supply arrangements. By pooling interstate pipeline resources Members achieve greater efficiency and reduce the overall cost of natural gas to the ultimate consumer. As a joint agency the Members undertake the acquisition of natural gas supplies, natural gas capacity and the construction of facilities in order to achieve lower costs of operation and greater efficiencies in the competitive natural gas market.

Chester County natural gas authority
The "Natural" Solution

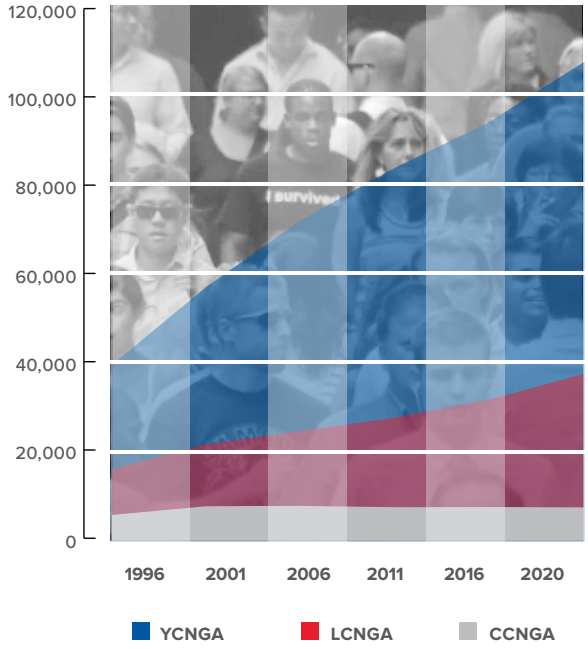
York County Natural Gas Authority

lcnga
lancaster county natural gas authority

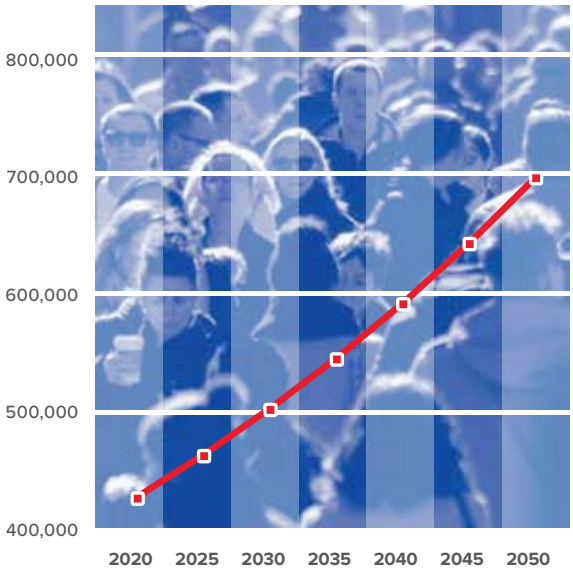
Growth in Upstate South Carolina

The tri-county area of York, Lancaster and Chester is one of the fastest growing regions in the United States.

Gas Customer Count Per Gas Authority (1996-2020)



Projected Future Population Growth of Chester, Lancaster & York Counties



Source: Determined by US Census growth rate data from 1996-2020

With close proximity to Charlotte and conveniently located on the I-77 corridor, both York and Lancaster Counties have seen an average population growth of 24-25% since 2010 with a combined population in the tri-county region just over 400,000 residents. Award winning schools, job growth, recreational opportunities and a low cost of living continues to attract new families along with new and expanding companies like Schaeffler Group, Domtar and more recently the Carolina Panthers. With the surge in development and growth, natural gas consumption has reached record levels and the Member Authorities are challenged to meet and sustain the demand.

I N F R A S T R U C T U R E

Natural Gas Infrastructure

Consumption of natural gas as an energy source has increased by nearly 31% over the past 10 years (2009-2019).

Multiple factors have contributed to the dramatic increase which place natural gas as the second highest consumed energy source behind petroleum. In addition to being affordable and reliable, domestic natural gas is better for the environment releasing much less carbon dioxide, sulfur, mercury, particulates, and nitrogen oxides (precursors to smog) when compared to fuel oil and coal.

Along with the rise in natural gas usage, infrastructure has expanded to extract, transport, distribute and deliver the energy source. Driven by growth in domestic production through shale development, the United States became a net exporter of natural gas for the first time in 2017. To keep up with the demand of clean, efficient and affordable natural gas more infrastructure expansion projects are needed.

DRIVEN BY GROWTH IN DOMESTIC PRODUCTION THROUGH SHALE, THE U.S. BECAME A NET EXPORTER OF NATURAL GAS FOR THE FIRST TIME IN 2017

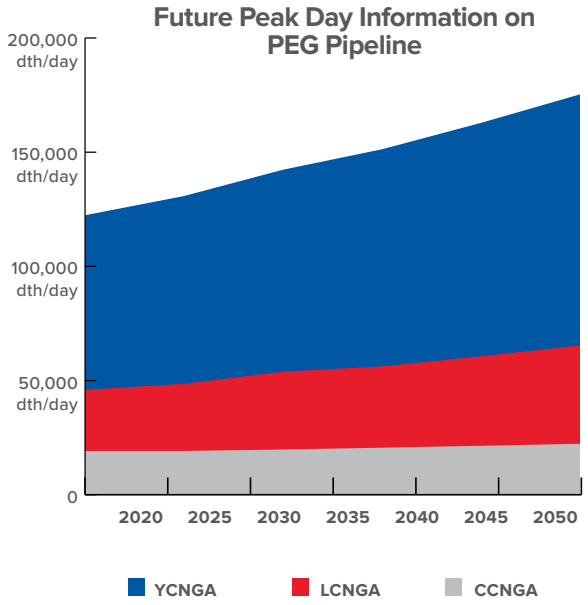
PEG Infrastructure Evaluation

In the fall of 2018, PEG engaged an expert consulting firm to complete a 15-year gas load forecast and infrastructure study. The forecast projected peak daily demand for natural gas in the region and became the basis of pipeline capacity planning and system modeling which identified required changes to PEG's infrastructure.

Identifying capital projects from modeling results and long-term forecasts allows both PEG and the Members to not only ascertain the lead times required for their respective systems and investments required, but also to determine actions for upstream capacity acquisitions.

Examples of these lead times for new infrastructure and upgrades include selecting suppliers, determining key equipment lead time, acquiring right-of-way and land from property owners, conducting environmental due diligence, field-studies, surveys, permitting, and engineering.

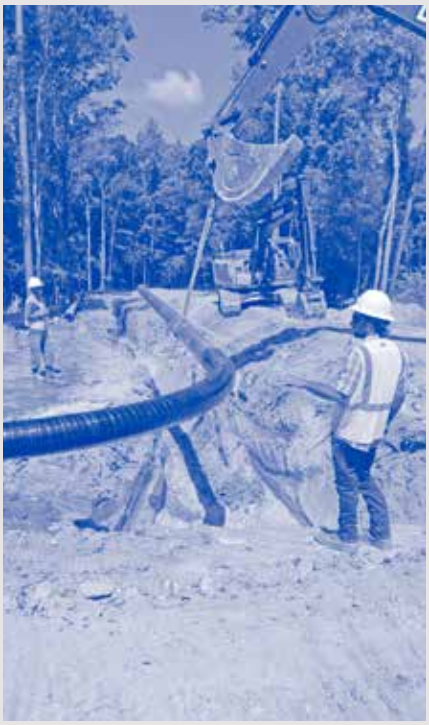
PEG enhanced the 15-year forecast to provide 30-years of forecasting data addressing the need to plan long-term infrastructure as the population in the region continues to expand.



PEG ANALYSIS

With the 2018 consulting engineering report and recommendations in hand, PEG personnel used computer models to identify and verify what new infrastructure would be required to meet the needs of new and existing customers in the future.

Increasing total natural gas deliveries can be accomplished through one or a combination of the following:



- Increasing horsepower at pipeline compressor stations or the construction of a compressor station
- Replacing an existing pipeline with a larger pipeline
- Building new pipeline, next to existing pipes (a process called looping)
- Installing new pipeline, where a pipeline does not currently exist

After analyzing environmental reports, maps, aerial photos, and other data, pipeline engineers establish a preliminary route or location for the new infrastructure, as well as alternate locations.

Infrastructure projects always consider routes along existing corridors, such as:

- Pipeline rights-of-way
- Roadways
- Utility corridors
- Railroad corridors
- Other easements

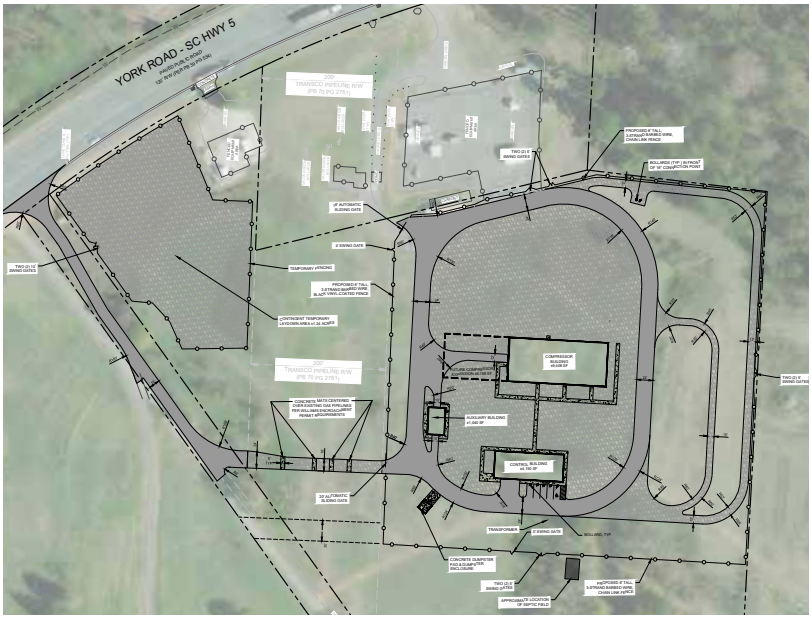
Projects must be based upon environmental sound decision and the evaluation of a number of factors, including potential impacts on:

- Residents
- Threatened and endangered species
- Wetlands, water bodies and groundwater
- Fish, vegetation and other wildlife
- Cultural resources
- Geology
- Soil
- Land use
- Air and noise quality

How Will PEG Meet Growth Needs?

Additional Infrastructure is needed to ensure reliable natural gas service

Construction of a compressor station in Cherokee County at the current site and start of the PEG transmission pipeline will allow for increased capacity that is critical to meeting the future energy needs of the region. The station will be located adjacent to PEG's connection with the Williams-Transco high-pressure pipeline, south of the Town of Blacksburg on Highway 5, on land already owned and maintained by PEG.



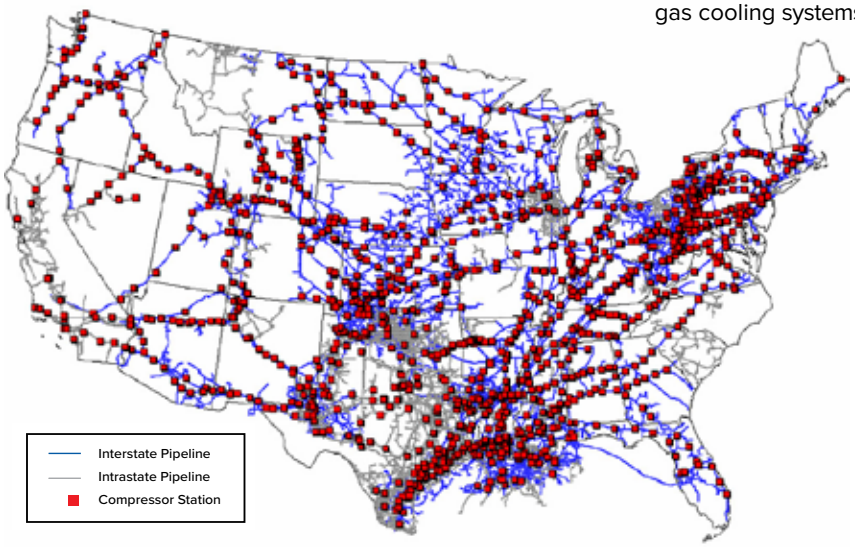
WHAT IS A COMPRESSOR STATION?

Compressor stations are above ground facilities that are used to pump natural gas through pipelines

Compressors, located at intervals along a pipeline, pressurize the gas to keep it moving through the pipeline at sufficient volumes and pressures for reliable service at delivery points. When natural gas flows through a pipeline, friction causes the gas flow to slow. To keep the gas flowing at the desired rate, it is re-pressurized at compressor stations located along the pipeline's route.

Natural gas pipelines supply natural gas to local distribution companies (including homes and businesses), manufacturers and electric generators.

Typical compressor stations include some above ground piping, gas cleaning operations (filters or scrubbers); liquid storage tanks; process heaters and a building that houses gas compressors; gas cooling systems; and backup electrical generators.



Natural Gas Pipelines and Compressor Stations in the United States

As of July 2017, the United States had approximately 2,304 large natural gas pipeline compressor stations on interstate pipelines. There are 13,000-15,000 smaller compressors on other pipelines and 2,000-3,000 compressors (all sizes) in smaller oil, gas and LNG applications.

Are Natural Gas Compression Stations Safe?

Natural gas compressor stations must be engineered, constructed, operated and maintained in accordance with Pipeline and Hazardous Materials Safety Administration (PHMSA) safety standards *(www.phmsa.dot.gov).*

WITH THE HELP OF COMPRESSOR STATIONS, 99.99% OF NATURAL GAS IS TRANSMITTED SAFELY

PHMSA regulations are intended to protect the public and prevent natural gas pipeline facility accidents. PHMSA inspections are conducted during the design, construction and operation of pipelines and compressor stations.

Statistically, the operations of natural gas compressor stations are incredibly safe. Since 2002, when detailed data was first collected by federal regulators, there have been no reported incidents where a member of the public was injured because of a compressor station malfunction. With the help of compressor stations, 99.99% of natural gas is transmitted safely.

As with its existing infrastructure, safety is PEG's top priority in designing, constructing and operating the compressor station. Each stage of construction has built-in safety requirements.

For example, pipes will be coated with corrosion preventative epoxy and each pipe weld will be visually and radiographically inspected. Remote-controlled shutoff valves will be installed to stop the flow of gas in case of an emergency. Cathodic protection, a low-voltage electrical system, will also be applied to the pipe to help prevent corrosion. Compressor stations and meter and regulations facilities are designed with control systems to continually monitor and effectively control situations outside of the normal operating parameters.

Highly trained staff will operate the system in accordance with federal, state and local government regulations. When staff is not on-site during normal working hours the station will be monitored remotely 24 hours a day, seven days a week, using sophisticated computer and telecommunications equipment at PEG's gas control center in Rock Hill, SC. Operators will employ a number of safety measures, including the use of computer-assisted control centers capable of detecting and interpreting pressure or flow changes in the pipe; and remote-controlled shutoff valves.

What Permits Are Required for Compressor Stations?

The permitting process for a natural gas compressor station is robust to protect the health and safety of individuals living near a compressor station. Natural gas compressor stations must meet all applicable federal regulations prior to and during construction, as well as during the operation of the facilities.

In many cases, facilities must also adhere to applicable state and local laws, which meet or exceed federal requirements. The regulatory programs are designed to ensure that:

1. The compressor station is designed and operated in a safe manner (PHMSA)
2. Emissions from the compressor station will meet existing air quality standards (DEHEC, U.S. Environmental Protection Agency)
3. Surface and groundwater will remain protected (local agencies, EPA)
4. Surface area impacts are mitigated (local agencies, EPA)
5. Fish, wildlife and vegetation will be protected (U.S. Fish & Wildlife Service)
6. The station will adhere to noise regulations

Storm Water, Drinking Water, Runoff and Spill Concerns

Natural gas transmission compressor stations do not pose a risk to surface water and drinking water. They generally are not a source of spills because the pipelines that connect with the station transport natural gas, not oil or natural gas liquids.

To ensure construction activities do not create unwelcome water quality impacts, detailed site-specific plans with erosion and sedimentation and post-construction stormwater management controls designed and approved by applicable agencies as part of the permitting process. Compressor stations are also required under state and/or local regulations to have spill-prevention procedures in place to help prevent, control and mitigate the effects of any potential spill at the station, such as lubricants or coolants.

Are There Greenhouse Gas and Climate Change Impacts from Compressor Stations?

Like any natural gas appliance, compressor stations combust natural gas as a fuel, which creates carbon dioxide, nitrous oxide and trace amounts of unburned methane. Such emissions are carefully monitored and kept to a minimum.

Will a Compressor Station Affect Air Quality?

ENGINE EXHAUST EMISSIONS FROM COMPRESSORS DO NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF NATURAL AMBIENT AIR QUALITY STANDARDS ESTABLISHED IN THE CLEAN AIR ACT OF 1970

Compressors are engines that create exhaust. Based on air quality modeling, engine exhaust emissions from compressors do not cause or contribute to violations of National Ambient Air Quality Standards established in the Clean Air Act of 1970 and would therefore not interfere with attainment status in the areas where they are proposed. Because of the low level of emissions expected from the compressor stations, these facilities are considered minor sources.

There are generally no visible emissions, such as dust or smoke, during compressor operations. This is because the natural gas moved (and combusted) by compressor stations already has been processed to meet the high standards suitable for homes, businesses, electric generation and industrial uses.

Because compressors use natural gas that is already processed, there are no emissions related to hydraulic fracturing, oil and gas wells or processing at the compressor site. There is no documentation that attributes impact from naturally occurring radioactive material, such as radon, to natural gas transmission compressor stations. If present in the natural gas stream, radon decomposes quickly. By the time the gas reaches the compressor station, the radon has decomposed. Strict enforcement regime acts as a powerful ongoing incentive for facilities to comply with the conditions of their permits and with applicable emission standards.

At times, a compressor station operator may need to release natural gas intentionally as part of safety procedures or to conduct maintenance on the facility. This activity, often referred to as a "blowdown," can be part of operations or planned maintenance. Regulators consider the possibility of blowdowns during the permitting process of all newly constructed or modified transmission compressors. They require operators to limit air emissions and noise during these events.

Natural gas is lighter than air and dissipates quickly into the atmosphere. Through the permitting process, reviewing agencies confirm that all emissions, including emissions from planned blowdowns, meet the regulatory requirements developed to protect public health.

Do Compressor Stations Emit Odors?

Natural gas transported through interstate natural gas transmission system is generally odorless. However, Federal Department of Transportation guidelines mandate that natural gas that is delivered to end users – residential, commercial and industrial users – must be scented with an odorant (usually mercaptan or mercaptan sulfide blends) to help identify potential leaks. There will be odorant in this stream of natural gas and through the compressor station.

Are Compressor Stations Loud?

Compressor stations along a pipeline's route are housed inside a specially constructed building to reduce residual sound, and follow the Federal Energy Regulatory Commission's (FERC) regulations for noise transmission. Regulations require a compressor station's average noise level not exceed 55 decibels at the nearest noise sensitive area (NSA - e.g., residences, schools, hospitals, etc.).

Ambient sound studies and acoustical analyses completed for the Blacksburg site evaluated the existing noise conditions and estimated noise produced by equipment at the site. Existing sound levels were combined with the expected sound contribution at the nearest NSA and noise mitigation measures were then developed to achieve the desired level.

The result of the analyses indicated that, with the specified noise control measures successfully implemented, the continuous sound attributable to the station operating at a full-rated load will be lower than the limit of 55 decibels at all identified NSAs, exceeding the regulations established by FERC to minimize noise.

To put this sound level in context, a noise level of 55 dB(A) is consistent with the noise generated by a dishwasher, refrigerator or normal indoor conversation. Station design will include a number of noise control measures. For example, a muffler will be installed on the exhaust of each engine. The exhaust pipes and intake ducts of the three units will be acoustically insulated. The intake ducts will have air cleaners and silencers. The walls and roof panels of the two compressor buildings will be constructed using sound dampening material. The doors of the compressor buildings will be insulated metal utilizing full weather stripping. Air inlet mufflers will be located between the air-handling units and the building walls to reduce sound from the units. Ventilation discharge hoods on the compressor building's roof will include air discharge mufflers. All above ground sections of the unit suction, discharge, and bypass lines will be acoustically insulated.

NOISE IMPACTS FOR A COMPRESSOR STATION DO NOT EXCEED 55 DB(A) WHICH IS CONSISTENT WITH THE NOISE GENERATED BY A DISHWASHER

Compressor Station Structures and Equipment

- Compressor Buildings
- Auxiliary Building
- Office Building
- Auxiliary Generator
- Air Compressors
- Pipeline Launcher and Receiver
- Small Tank Farm
- Gas Heaters
- Gas Coolers
- Blowdown and Exhaust Silencers
- Metering Equipment
- Filter/Separators

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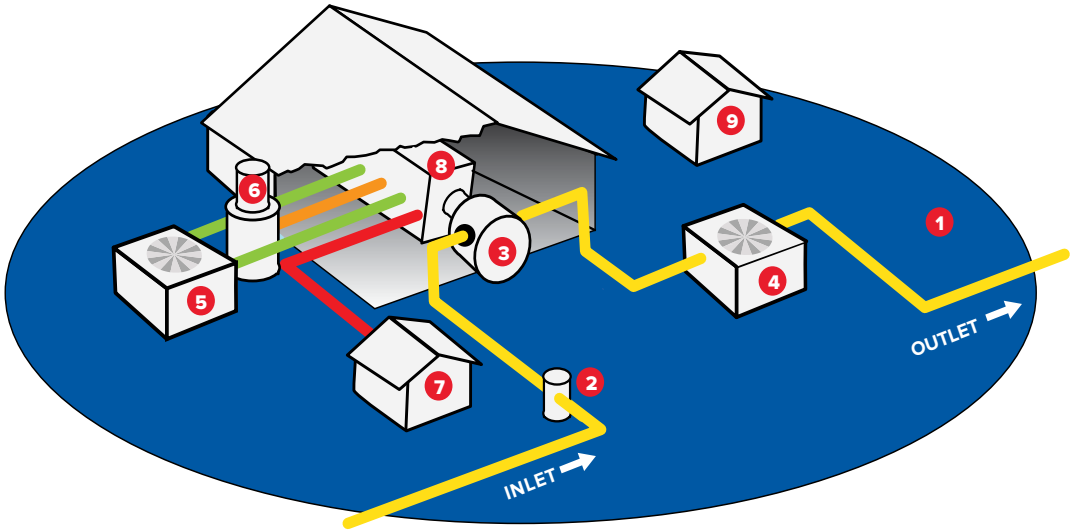

1. Station Yard Piping
2. Scrubber
3. Compressor Unit
4. Gas Cooling System
5. Engine Cooling System
6. Mufflers (Exhaust Silencers)
7. Fuel Gas System
8. Engine
9. Lubrication System

Natural Gas
Fuel Gas
Lube Oil
Muffler

STATION SAFETY SYSTEMS:

Remote Cameras, Natural Gas and Fire Detection Equipment,
Fire Suppression System and Motion Detection System

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