Natural Gas Compressor Stations

Interstate Natural Gas Association of America

Compressor stations are used to move natural gas through pipelines. They are above-ground facilities located generally every 40 to 100 miles along a pipeline. Compressor stations use natural gas or electricity to power compressors to safely pressurize the natural gas, which helps the natural gas flow efficiently for safe and reliable service.

Interstate natural gas transmission compressor stations are engineered, constructed, operated and maintained in accordance with strict engineering standards and regulatory requirements. Rules promulgated by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) cover the design, operation, safety and physical security of interstate compressor stations and pipelines.

Compressor Stations and Communities

Although interstate natural gas compressor stations produce air emissions, noise and certain releases, as explained further below, federal, state and local regulatory requirements ensure that the operator mitigates these impacts to the extent possible and adheres to applicable federal, state and local permits and regulatory standards. Therefore, the overall impact from a compressor station on the social and environmental qualities of a community are typically minimal.

The Regulatory Process for New Compressor Stations

The permitting process is designed to thoroughly protect public health, the environment and safety. The review and approval process involve multiple federal, state and sometimes local government agencies. Federal permitting agencies with oversight for these projects include, but are not limited to, the Federal Energy Regulatory Commission (FERC), EPA, the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service (FWS). If the station will be located on federal lands, the U.S. Bureau of Land Management (BLM) or U.S. Forest Service (USFS) may also be involved. These facilities are also designed to comply with applicable state (and sometimes local) laws, which may be more stringent than federal requirements.

Interstate natural gas compressor stations must comply with all applicable federal regulations during construction, operation and maintenance. The regulatory process is designed to ensure that new interstate natural gas compressor stations:

1. Are necessary and in the public interest **(FERC)**
2. Are designed and operated in a safe manner **(PHMSA)**
3. Protect air quality **(state agencies, EPA)**
4. Protect surface water and groundwater **(state agencies, EPA, USACE)**
5. Protect fish, wildlife and vegetation **(state agencies, FWS, FERC, BLM, USFS)**
6. Adhere to noise standards **(FERC and applicable state and local noise ordinances)**

Air Quality

Federal, state and sometimes local air regulations apply to compressor stations. These regulations establish standards that restrict emissions and protect the public health and the environment. Compressor station operators employ various practices to minimize air emissions from a compressor station, such as installing pollution-control equipment and conducting routine equipment maintenance, which can effectively reduce fugitive methane emissions. Additionally, Interstate Natural Gas Association of America (INGAA) members have voluntarily committed to minimizing methane emissions caused by unburned natural gas releases from their interstate natural gas transmission and storage compressor stations by inspecting for and evaluating leaks and taking corrective actions.

At times, a station operator may need to intentionally release natural gas (blowdown activities) to conduct maintenance on the facility or as part of engineered safety practices to ensure integrity of the facility. These emissions are considered during the permitting process.

Noise

Interstate natural gas compressor stations produce mechanical noise during normal operation and during blowdown activities. FERC imposes restrictions on noise levels from compressor stations to protect the public, and other local restrictions may also apply. Compressor station operators may employ numerous practices to minimize the level of noise from a compressor station, including the installation of mufflers or silencers on engine exhausts or enclosing engines and other noise-producing equipment in acoustically insulated buildings.

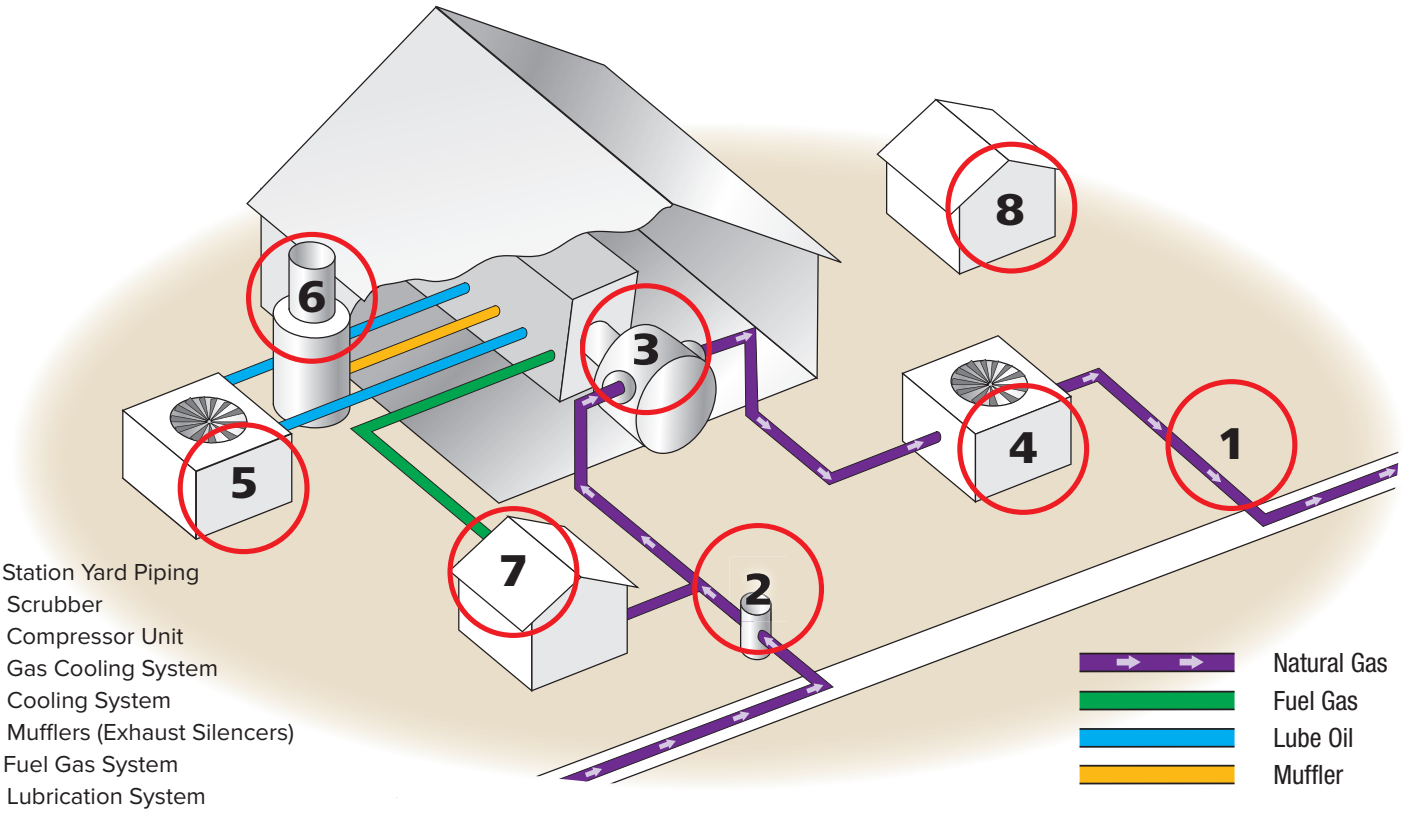
Water Quality

Natural gas compressor stations do not pose a significant risk of impacting surface water or drinking water. Because natural gas compressor stations are designed to move gas (as opposed to a liquid), any gaseous releases from the facility are into the air, not into the ground.

To ensure construction activities do not impact water, potential water quality impacts are considered during the planning and design stages for a new station. Prior to the construction of compressor station facilities, detailed site-specific plans with erosion and sedimentation and post-construction stormwater management controls are 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 (e.g., lubricants, coolants).

For more information about interstate natural gas compressor stations, including a video that illustrates the journey of natural gas through a compressor station, visit the Compressor Stations page at INGAA's website. For more information on how the regulatory process for interstate natural gas compressor stations protects the public, consult the INGAA Foundation's "How The Regulatory Process Protects Those Living Near Natural Gas Transmission Compressor Stations" report. Information about INGAA members' construction practices can be found on our Commitments to Responsible Construction webpage.

The Parts of a Compressor Station



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