

Compressor Stations and Emergency Shutdowns

Compressor stations play an important “push” role in moving natural gas through a vast interstate pipeline network. On its journey from production to end user, natural gas is compressed and pushed along delivery systems by 700 to 1,600 pounds per square inch of pressure. Over distance, friction and elevation differences slow the natural gas and reduce the pressure. Strategically located compressor stations maintain the pressure and velocity of the natural gas by giving it a much-needed “boost.”

Compressor stations are highly regulated facilities that must meet rigorous safety standards established by the Federal Energy Regulatory Commission and the U.S. Department of Transportation. Spectra Energy’s compressor stations integrate a variety of safety systems and practices designed to protect the public, our employees and our property.

Every compressor station is equipped with a state-of-the-art emergency shutdown system that automatically and safely halts operation when the slightest irregularity is detected. The emergency shutdown system stops the compressor units, then isolates the compressor station piping and releases the natural gas from within the station into the atmosphere in a safe and controlled manner. In addition, all emergency shutdown systems are fully tested annually per Department of Transportation regulations.

An emergency shutdown is a very rare occurrence, but one for which we are well-prepared. In the event of a shutdown, local public safety and/or emergency management officials are immediately notified and thoroughly briefed so they may respond to questions and concerns as needed.

Frequently Asked Questions

The following questions and answers are designed to help our compressor station neighbors understand exactly what happens during an emergency shutdown:

Q: What causes an emergency shutdown?

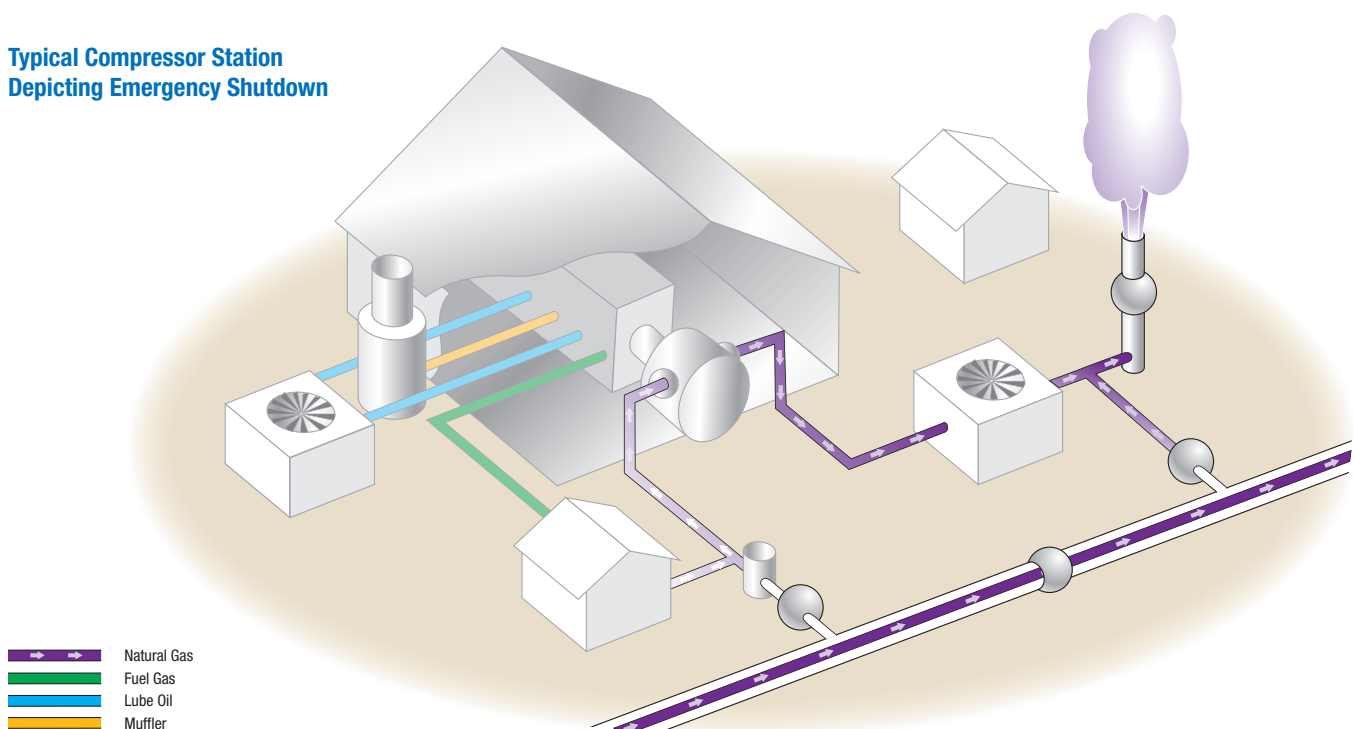
A: Natural gas and flame sensors, located inside the compressor building, constantly monitor the station. If a problem is detected, the emergency system will activate automatically in order to protect the community, station personnel and facility.

Q: Is this all done by computer?

A: Yes, but there are also manual shutdown buttons strategically placed throughout the facility which can be activated by station operators. Every one of our compressor stations is operated and maintained by highly skilled, experienced personnel trained to safely maintain the station and its pipelines.

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Typical Compressor Station Depicting Emergency Shutdown



Q: What will I hear when an emergency shutdown occurs?

A: You will hear a very loud noise often compared to the sound of a jet engine or a freight train. The sound will last anywhere from one to four minutes. This sound is the result of the release of pressure from the compressor station piping.

Q: What will I see when an emergency shutdown occurs?

A: You likely will see a large vapor cloud discharging into the air. During an emergency shutdown, natural gas is released from a compressor station very quickly in order to clear the natural gas and reduce potential danger. It appears to form a cloud because compressed natural gas is under extreme pressure and the velocity of the natural gas, upon its release, makes it colder than the atmosphere.

Q: Is it dangerous?

A: The natural gas released during an emergency shutdown is not dangerous. While release amounts vary from station to station, they fall within strict guidelines mandated by federal regulations. The natural gas release is necessary to reduce potential risk to the facility, employees and the surrounding community.

Q: What is in the vapor cloud that is released?

A: Natural gas is a mixture of hydrocarbons, primarily methane. Because methane is lighter than air, it rises and dissipates safely as it is absorbed into the atmosphere.

Q: What will I smell?

A: Natural gas is odorless and colorless. However, in some pipelines, an odorant called mercaptan is injected into the natural gas for safety reasons. Mercaptan creates a recognizable odor, often compared to rotten eggs, which helps consumers identify or detect a leak. It is not harmful and will dissipate. In some cases, the smell of mercaptan may linger if minute traces of the odorant separate from natural gas that has risen and been absorbed into the atmosphere.

Q: Do the same things happen during a routine maintenance shutdown?

A: No. Our system or a portion of it is occasionally shut down, purged and tested to ensure it is operating safely and efficiently. Those shutdowns and start-ups cause little or no disruption and are rarely noticed by our neighbors.