Why we need compressor stations for natural gas transmission.

Natural gas moves through underground pipelines with the help of a compression system that keeps the gas flowing at a specific pressure and velocity. The compressor systems enable gas to travel long distances from the pipeline interconnects, wellheads or processing plants to markets across the U.S.

The compressors are located at precise distances to maintain the pressure and velocity needed to keep the gas flowing through the pipeline. The size of each station and the number of compressors varies based on the diameter of the pipe, the volume of gas being moved and the elevation differences that can slow down the velocity and reduce the pressure over time.

What to expect.

Compressor stations on interstate natural gas pipelines are highly regulated facilities that must comply with standards established by the Federal Energy Regulatory Commission (FERC) and the U.S. Department of Transportation (USDOT). They are remotely controlled and monitored 24 hours a day, 7 days a week by highly trained technicians, operators and gas control specialists.

Compressor stations also are often the launch point for inline inspection monitoring devices also known as “pigs”. These tools are vital for the maintenance, safety and efficiency of the pipeline.

How is sound mitigated?

Compressor stations along a pipeline’s route are housed in thick-walled structures 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 (e.g., residences, schools, hospitals, etc.).

For comparison, a normal conversation is 55 decibels and an automobile at 50 feet can be as much as 90 decibels.
How are compressor stations regulated?
The Federal Energy Regulatory Commission (FERC) has authority over the location, construction, and operation of interstate pipelines and compressors. The FERC review process includes an environmental review, evaluation of site alternatives, and interfacing with landowners and the public.

Once federally regulated interstate compressor stations become operational, station safety is regulated, monitored, and enforced by the U.S. Department of Transportation (DOT). Within DOT, the Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for enforcing proper design, construction, operation, maintenance, testing, and inspection standards.

What does a typical compressor station look like?
Compressor stations help keep the gas flowing through the pipeline at a specific pressure and velocity by reducing the volume of the natural gas, which increases the pressure.