Understanding Hydrostatic Pressure Testing

Public safety is the pipeline industry’s number one priority. The men and women working at the companies that build and operate North America’s interstate natural gas pipeline system have created the safest mode of energy transportation in the world today. Ensuring the integrity of the natural gas system is a key part of this commitment, and hydrostatic testing is one tool used by pipeline operators to do just that.

**What is Hydrostatic Pressure Testing?**

Hydrostatic pressure testing is one of several methods a pipeline company may use to reconfirm the structural integrity and safety of its natural gas pipeline. The test involves filling a pipeline segment with water until it is at a pressure that is higher than the pipeline will ever operate with natural gas. This allows the pipeline company to validate the safe operating pressure of the pipeline and ensure that the line does not leak.

To learn more about hydrostatic pressure testing, pipelines and pipeline safety, please visit our web site at www.ingaa.org/hydrotest
Performing a hydrostatic test involves the following steps:

1. The pipeline company obtains all required work permits and coordinates activities with local authorities.
2. The nearby community, landowners, and local agencies are informed using the pipeline company’s established outreach processes.
3. In most cases, the company ensures that customers will receive gas from an alternate source to limit service disruptions.
4. The section of the pipeline to be tested is taken out of service. The company removes all gas from the section safely through a process called “controlled venting.”
5. The pipeline section may be cleaned prior to testing.
6. The pipeline section to be tested is sealed on both ends and filled completely with water.
7. The pipeline section is pressurized to a specified level higher than the pressure it normally operates with natural gas.
8. The test pressure is held and monitored for a set time period, typically at least eight hours.
9. Any pipeline sections that leak during the test are repaired or replaced with new pipe.
10. Once the pipeline section successfully passes the test, the section is emptied of water, dried thoroughly, and placed back in service.

Extensive record checking and planning takes place long before a test is performed. This helps minimize inconvenience to customers and local neighborhoods. The test is conducted with public safety in mind, and the pipeline company makes the community a priority in all of its operations and testing procedures. Depending on the location of staging or work areas at both ends of the pipe section to be tested, you may notice the following:

**Sight**
- If necessary, temporary traffic safety cones and/or detour signs will be in place.
- Pipeline and contractor personnel will be onsite.
- Testing equipment, such as above-ground pipes and valves, may be visible, along with machinery and support equipment such as excavators, trucks, and water tanks.
- If a pipe leaks or breaks during the test, you may see water on the ground or spraying out over the ground. This water may be colored, as a non-toxic dye is sometimes added to the test water to make it easier for crews to find small leaks. Do not go near any standing water, as the test water may conceal a deep hole.
- Water used during the test may be moved to an adjacent test area or may be discharged on the ground in a controlled manner.
- You may see helicopters, which may be used to monitor the test results.

**Sound**
- Temporary elevated noise levels may be experienced in the locations where test equipment is set up and where personnel are working.
- You may hear a loud, steady noise as natural gas is safely vented to prepare the line for the test.
- You may hear helicopters.

**Smell**
- You may smell the rotten egg scent of odorized natural gas occasionally, particularly as natural gas is safely vented to prepare the line for testing.

These sights, sounds, and smells are common during this test and may vary depending on the location of the work and weather patterns. Residents with questions or concerns during the test are invited to contact the pipeline company.

Find out more about hydrostatic pressure testing online at: www.ingaa.org/hydrotest