

Getting to Know Natural Gas

Natural gas pipelines are all around us. Even if your home does not have a natural gas service there's a good chance that there is a pipeline very near. Because natural gas is such a common heating and cooking fuel it is important to understand some facts about it to keep you and your family safe.

Natural gas is colorless and odorless in its pure form, making its detection very difficult when a leak is present. Natural gas has a harmless chemical called mercaptan added to it to give it a very pungent smell that is easily detected. Mercaptan has an odor of rotten eggs or sulfur, which is so powerful that it can be detected even in very small quantities. While the gas that is supplied to the residents of Owatonna is odorized by OPU it should be noted that the majority of natural gas that is transported through rural areas in transmission lines is unodorized.

Natural gas is lighter than air and, unless trapped, will rise and dissipate rapidly into the atmosphere. A heavier than air gas such as propane (LP) or gasoline fumes, would settle and accumulate near the ground. These properties make natural gas safer than some other fuel choices.

Natural gas is non-toxic and contains no toxic poisons that can be absorbed into the blood when inhaled. However it can displace the oxygen required to support life and cause suffocation if an enclosed space is filled with it.

Natural gas has relatively narrow limits of combustibility, or its' ability to ignite. This makes it a very predictable and safe gas. Natural gas will only ignite when there is an air and gas mixture of between 5% and 15% natural gas. Anything above or below these limits will not ignite; pure natural gas cannot explode. The only way for you to determine what the air and natural gas mixture level is, is to have a professional check for a leak and determine the level with specialized equipment. For this reason you must treat all real or potential gas leaks as combustible and life threatening.

If you smell natural gas inside a building, follow these steps:

- Do not light a flame;
- Do not use light switches, telephone, or other electrically operated devices that may spark and ignite the gas;
- Evacuate the building or residence immediately;
- From a safe place (outside of the building), call 911;
- From a safe place, call OPU at 507-451-1616

How to recognize a natural gas leak or failure.

One or more of the following signs may indicate a natural gas pipeline leak or failure:

- "Rotten egg" odor, also can be considered a sulfur-like smell
- A hissing, roaring or blowing sound
- Dirt being blown into the air
- Water being blown into the air at a pond, river or creek

- Continuous bubbling in wet, flooded areas
- Dead or brown vegetation in an otherwise moist or green field
- Fire at or near exposed piping
- Flames apparently emanating from the ground

If you discover natural gas that is escaping (or a resulting fire) from a broken or leaking line, follow these steps:

- Turn off all machinery and vehicles and prevent the use of other sources of ignition such as open flames and the operation of electrical switches or cellular phones.
- Evacuate everyone from the surrounding area and keep vehicles and bystanders away;
- From a safe place (away from the leaking area), call 911;
- From a safe place call OPU at 507-451-1616;
- Do not attempt to make any repairs or operate any pipeline valves;
- Do not attempt to extinguish any fires;

Pipeline damage or failure can occur for several reasons: corrosion, material defects, and acts of nature such as floods and tornadoes. However, statistics from the Minnesota Office of Pipeline Safety (MnOPS) show that the leading cause of pipeline damage is caused by third parties (construction contractors, excavators and property owners) digging near buried pipelines. This is why the most important part of any proposed excavation is making sure to plan ahead and call GOPHER STATE ONE CALL at 1-800-252-1166, 2 business days before digging. “Gopher One” will notify all the utility companies that have facilities within your excavation area to mark buried lines for you. This service is free to you and using it is the law. The locators will mark the lines with paint and flags so you can safely hand dig within 2 feet each way from the marks.

The natural gas industry is highly regulated by MnOPS to assure that proper safety, installation and maintenance measures are being followed. OPU takes great pride in the fact that our gas distribution system is one of the most advanced and well-maintained systems in the state of Minnesota. As an example, the government regulators are just introducing requirements that utility companies place “excess flow valves” (devices that stop flow if a pipe is broken) on gas service lines; OPU has been proactively doing this for the past six years on its’ own.

If you smell gas or find a gas leak, please take the appropriate actions as described above. OPU is available 24 hours a day at 507-451-1616 for any natural gas concerns you may have. As witness to the fact that we are truly available, OPU was recently honored by MnOPS as having the best response times in Minnesota when responding to reported gas leaks.

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