

# Natural gas emergencies present unique challenges to firefighters

Energy companies bring natural gas to homes and businesses through a network of underground pipelines. These pipelines are located throughout your community, in residential, commercial and rural areas.

Although a safe, clean, efficient and common form of energy, natural gas can be highly flammable and explosive. If a gas pipeline is damaged, natural gas can escape into the air or migrate into nearby structures and possibly ignite. Since many natural gas facilities are near homes and businesses, it is critical that you respond appropriately to protect yourself and the public.

Natural gas will not burn by itself, and it's colorless, odorless, tasteless and non-toxic. The odor you generally associate with natural gas is from a liquid odorant that is added by the gas utility, which makes gas leaks easier to detect. By itself, natural gas is harmless, but if mixed with the right percentage of air, natural gas can ignite. In an enclosed area, natural gas may also displace oxygen in the air, which can lead to suffocation.

Natural gas emergencies can present unique challenges to firefighters, so it's important to follow some basic guidelines when responding to calls. This article will focus on how to deal with natural gas that is escaping or burning outdoors.

## Natural gas escaping outside

When underground utility systems are damaged, natural gas may escape into the air or migrate underground. In many cases, the damage occurs when excavating equipment strikes a gas main. When you arrive on the scene of a natural gas leak, **immediately evacuate the area**, keep all vehicles away from the scene — including your emergency response vehicles— and call the local gas utility. Approach the scene with the wind at your back. You might hear a blowing, hissing or roaring sound or notice a gas or petroleum like odor. However, the signs of a gas leak are not always obvious. To confirm that gas is present, use a properly-calibrated combustible gas indicator (CGI). If you don't have a CGI, but you smell natural gas, assume the situation is dangerous and call the gas utility. If gas is involved or even suspected, you should promptly call the local gas utility so appropriate personnel can be dispatched to assist.

Next, eliminate all ignition sources. Turn off all engines and power equipment. Any emergency equipment that must be kept running should be kept a safe distance away. If it is necessary to disconnect electricity to the building, do not shut off the circuit breakers or remove electric meters — either may cause an arc or spark and ignite the gas, creating an explosion. Call the local electric company to have the service disconnected at a point remote from the emergency.

Because natural gas can migrate underground, be sure to check buildings and other structures in the area for natural gas. If possible, keep water out of excavations where gas is blowing. And, do not enter an enclosed area such as an excavation, sewer, vault or pit where gas is flowing. As mentioned earlier, natural gas can cause asphyxiation in areas without adequate ventilation. In addition, static electricity may accumulate on plastic pipe, creating an ignition hazard if you enter the area. Even in turnout gear with a SCBA, you don't want to place yourself in a dangerous situation.

### **Gas burning outside**

As with any emergency involving natural gas, keep people and equipment away from the area and contact the local gas utility. When gas is burning and it's not threatening life, do not extinguish the fire. Let the gas burn until the gas company shuts off the gas supply (unless you can safely shut off the gas at the meter). Only qualified gas employees should operate valves on the utility system. This includes valves located underground or inside fenced areas like gate stations. If you are not familiar with the safe operation of gas valves, or you do not know which valves you may safely turn off, do not operate them and contact your local gas utility. If you do turn off a gas valve, you must leave it off. Only qualified utility employees should turn a gas valve back on.

To prevent the fire from spreading, keep nearby buildings and other combustibles wet. If you must perform rescue operations near the burning gas, use a dry chemical extinguisher to put out the fire or a fog spray to protect personnel. Do not try to extinguish burning gas with water.

Remember, Alliant Energy or your local gas utility employees are on call to assist first responders with natural gas emergencies. Utility employees are specially trained to operate natural gas equipment and help make the situation safe. If untrained personnel do not respond appropriately, no matter how well intentioned, they can make the situation much worse.

To learn more about electrical and natural gas safety, please call Alliant Energy at 1-800-ALLIANT or visit our Web site at [www.alliantenergy.com](http://www.alliantenergy.com).

*This article provides some basic guidelines on responding to natural gas emergencies, but does not cover every possible situation and should not replace professional training.*