



Re: Safety Bulletin -- Natural Gas Odor Fade

Dear Contractor:

At Pacific Gas and Electric Company, our top priority is the safety of our customers, our employees and the public. Customers and other professionals working with our services should also make safety their top priority when working with and around our natural gas system. Although PG&E adds a distinctive odor to natural gas as a safety precaution to assist in the detection of leaks, you should not rely solely on your sense of smell to determine if natural gas is present.

There are a number of reasons why your sense of smell alone is not enough to alert you to the presence of natural gas. Some people may not be able to detect the odorant because they have a diminished sense of smell, or because they have smelled the same odor for too long or because the odor is being masked by other odors in the area.

There are also certain conditions that may cause the odor to “fade” so that it is not readily detectable. Odor fade, or loss of odorant, occurs when the odorant in the gas is diminished because of physical and chemical processes. These processes include adsorption, absorption and oxidation.

Adsorption occurs when an extremely thin layer of gas molecules adheres to a solid surface. This occurs predominately in new pipe installations, rather than in existing pipe, and is more pronounced in steel pipe but can also occur in plastic pipe. The longer and larger the pipe, the more likely it is that odor fade will occur. For this reason, newly installed or added pipe may require “conditioning” to prevent odor fade before it is placed into service.

Other factors that may cause odor fade include the presence of rust, moisture, liquids or other substances in the pipe. Intermittent, little or no gas flow over an extended period of time may also result in the loss of odorant until gas flow increases or becomes more frequent.

When natural gas leaks from a buried line, some, or all, of its characteristic odor may be absorbed or oxidized as the gas passes through soil or fresh concrete. Soils with high clay content tend to remove and retain odor more effectively than sandy soil. Soils with high iron or metal content will chemically combine with the odorant to reduce the strength of the odor. Consequently, if gas, leaking from a buried pipeline passes through the soil, it can be “stripped” of its odor and you will not be able to rely on your nose alone to detect the leak.

There are some important safety precautions you should take when working with our natural gas system:

- DO NOT purge the contents of a gas line into an enclosed space. Any purging of a gas line should only be done in a well ventilated area or by venting the contents to the outside atmosphere.
- Always use gas detection equipment (combustible gas detector) during purging operations or when otherwise working on or around gas piping systems.
- DO NOT rely on your sense of smell alone to detect the presence of natural gas.
- In addition to the distinctive odor added to natural gas, the following signs may indicate the presence of a gas leak: a hissing, whistling or roaring sound near a gas appliance or



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pipeline; a damaged connection to a gas appliance; dead or dying vegetation in an otherwise moist area over or near pipeline areas; dirt or water being thrown in the air; a fire or explosion near a pipeline; and exposed pipeline after an earthquake, fire, flood or other disaster.

- Consult your local plumbing, mechanical or fuel gas code and/or your Department of Building and Safety for more information.
- When installing gas appliances or equipment, the manufacturer's instruction manual should be followed in accordance with the local code authority.

PG&E is committed to providing all our customers with safe and reliable service. Your attention to this important matter is appreciated. If you have any questions or concerns about odor fade or odorization levels of natural gas, please contact PG&E at 1-800-743-5000.

Sincerely,

Pacific Gas and Electric Company