

Job Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## Topic 682: Natural Gas (Detection)

**Introduction:** In any form, a minute amount of odorant such as t-butyl mercaptan, with a rotting-cabbage-like smell, is added to the otherwise colorless and odorless gas, so that leaks can be detected before a fire or explosion occurs. Sometimes a related compound, thiophane is used, with a rotten-egg smell. Odorants are considered non-toxic in the extremely low concentrations occurring in natural gas delivered to the end user.

**Gas Line Leaks:** Natural gas line leaks can be extremely dangerous. The most telling sign of a natural gas line leak is the familiar rotten egg odor the natural gas has. This odor is added to the natural gas so it can be detected in the event of a leak.

- **The biggest hazard** of a gas leak is an explosion. When natural gas builds up in an enclosed area, it becomes extremely volatile.
- **A gas build up** has the potential to be explosive, or could make those in the area very sick. Gas leaks can be easily prevented by ensuring flexible gas lines are inspected regularly and installed properly by licensed professionals.
- **Gas leaks** outside a building are dangerous as well. Most gas lines coming into the building are buried underground. Before doing any job that requires digging outside, call the gas company at least 48 hours before digging. The utilities will be contacted and asked to mark the lines they own. After the lines have been marked; safe, careful digging can begin.

**If you detect a strong gas odor, follow these tips:**

- Do not panic.
- Get everyone out of the building immediately.
- Do not attempt to locate the leak.
- Do not turn on or off any electrical appliances or lights.
- Do not smoke.
- Never use any phone inside the building.
- Leave the building and from a safe distance, call the utility company and 911.



- When digging outside, if a natural gas line is damaged, call the utility immediately.
- Do not attempt to repair the line.

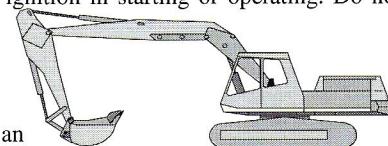
**Call before you dig:** Digging, drilling, or blasting can inadvertently damage underground gas lines, causing explosions and fires. State laws require that you have the location of existing utility lines identified before you begin work.

- **Call** the utility company at least two days before you dig. This is usually a free service to help you avoid accidentally digging into utility lines.
- **When** you see the "Call Before You Dig" safety warning symbol; it indicates that there are underground utilities.
- **Remember**, if a gas line is damaged when digging, or any other activity damages or breaks a gas line, call the gas company immediately for assistance. When there is an immediate threat of fire or injury, call 911.
- **If** a gas line is damaged inside a building, shut off the main gas valve at the meter.
- **Make sure** all responsible employees are aware of where the main gas valve is located, and how and when to shut it off.
- **Only** an authorized gas company representative should turn the main gas valve back on after it has been shut off.
- **When** an accident occurs outside, do not attempt to shut off the gas valves. Turning off the wrong valve could cause serious problems elsewhere in the system. Only an authorized gas company representative should shut off the valves under these circumstances.
- **In either event**, extinguish open flames, prohibit smoking, and shut down all equipment that involves ignition in starting or operating. Do not operate electrical switches.
- **If there is a gas fire**, do not try to extinguish it by spraying water on the point where the gas is escaping. This can cause an explosion. However, you can spray water on endangered structures or materials.



**User Safety:** Have all natural gas appliances and equipment professionally inspected at least once a year.

- **Never** stack boxes, papers, or other items around the base of a natural gas appliance. The pilot light needs an adequate supply of oxygen to burn properly. Keep paints, papers, aerosol sprays, and other flammables at least 50 feet away from gas equipment.
- **Make sure** vent hoods, pipes, and flues are in good condition. Never hang tools, or other items, from gas pipes or meters.
- **Teach** employees to work safely around natural gas equipment, making sure to keep long sleeves, towels, and potholders away from open flames.
- **Install** digital carbon monoxide detectors in all public and working areas. Always have gas appliances installed by the dealer.
- **When** you have older natural gas equipment, have a service technician inspect the connectors that link the appliance to the gas valve. Flexible metal connectors, especially those made of uncoated brass, can weaken or crack over time, causing a dangerous leak.
- **Check** pilot lights often; the flame should be at least 80 percent blue. A flame that is mostly yellow is not burning enough oxygen and needs immediate servicing.



**Conclusion:** When a worker needs medical attention, call 911 immediately. Utilize these safety guidelines whenever working near natural gas.

## Work Site Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

**Employee Signatures:**

(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)

_____	_____	_____
_____	_____	_____
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These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.