

Natural Gas Odor Protocol
2/13/17

INTENT:

The intent of this protocol is to ensure a **safe**, prompt, uniform approach in responding to a complaint of a natural gas odor.

IMPORTANT NUMBERS:

National Grid – 1-800-892-2345

Albany Fire Department (AFD) – 438-4000

McKownville Fire Department – 356-1501

University Police Department – 442-3131

BACKGROUND:

Natural gas is composed of hydrocarbons. Its composition is 85% to 90% methane with the remaining 10% to 15% made up of other gases such as the flammable gases, ethane, propane, butane and the nonflammable gases, nitrogen and carbon dioxide. Natural gas is odorless, colorless, nontoxic, nonpoisonous, lighter than air and extremely flammable. Odorant (mercaptan) is added to give natural gas its odor. You can smell natural gas at low levels long before it becomes a hazard. The odor can be detected in parts per billion. It does not support life and is a simple asphyxiant. The vapor density of natural gas is approximately .60, which means it is lighter than air (1.0). The flammability range is ~5% to 15%. The auto-ignition temperature is between 1000° and 1100° F.

HAZARDS:

Health Hazards

Natural gas will displace oxygen and can cause suffocation, especially in confined spaces. Natural gas can cause anesthetic effects at high concentrations. It has no known or anticipated delayed effects.

Physical Hazards

Natural gas is an extremely flammable gas. It can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, electrical switches, mechanical/electrical equipment and electronic devices, such as cell phones, telephones, doorbells, computers, calculators, portable radios and pagers which have not been certified as being intrinsically safe). Vapors may travel considerable distances

to a source of ignition where they can ignite, flashback or explode. It may create vapor/air explosion hazards indoors, in confined spaces, outdoors or in sewers.

NATURAL GAS DETECTION EQUIPMENT:

The University has purchased combustible gas detectors that are to be used for all natural gas odor responses.

PROTOCOL:

1. Complaint of natural gas odor comes into Power Plant or Customer Service and is placed in the log (AIM), noting the exact location of the odor, as well as the name of the individual reporting the complaint, their current location and their contact information. If Environmental Health and Safety (EH&S) receives the call first, they will call Customer Service and EH&S will also log in the complaint in their odor log. During normal working hours, all natural gas odors need to be reported to EH&S, the Plumbing Shop and the HVAC Shop.
2. If the caller indicates that they believe a major gas leak is occurring, e.g., due to a gas line break, then the affected area needs to be evacuated by advising the caller to pull the fire alarm and the Power Plant needs to immediately contact AFD or McKownville FD and National Grid at **1-800-892-2345**. If Customer Service receives this call, they need to follow the same procedure regarding evacuation. They then need to contact the Power Plant immediately to advise them of the situation, so that the Power Plant can make the appropriate phone calls. UPD also needs to be contacted.
3. The Plumbing Shop, HVAC Shop and EH&S will respond to a natural gas odor complaint during normal working hours, each with a calibrated combustible gas detector. After hours, Power Plant will respond with a calibrated combustible gas detector and when required, Plumbers and/or EH&S will be notified and will respond.
4. The Plumbing Shop, HVAC Shop, and EH&S will immediately meet at a mutually agreed upon location and then investigate the gas odor.
5. If the call of a natural gas odor comes in and it is suspected to be from an active project, the Project Manager will be called and expected to respond, along with the Plumbing Shop, HVAC Shop and EH&S.
6. **The combustible gas detector will be turned on in fresh air before anyone enters the area where the odor complaint originated.**
7. With the detector running, the area will be entered. If the detector sounds an audible alarm in the area or the detector reads 10% LEL, the area and/or building shall be safely evacuated and National Grid contacted immediately at **1-800-892-2345 and AFD or McKownville FD. UPD also needs to be contacted.** If it is safe to do so, all ignition sources will be eliminated. Be aware of emergency power backup systems in the area.
If the detector reads less than 10% LEL, then the area should be tested/scanned with the detector, including by the ceiling and by the floor. The atmosphere

above dropped ceilings, crawl spaces, sanitary sewer outlets, electrical receptacles in walls and around any conduits that may enter the building should be tested with the detector. If necessary, the combustible gas detector can also detect the presence of a pinpoint leak by using the tick function. Bubble solution for leak detection should only be used after the tick function on the combustible gas detector has been used.

The Plumbing Shop and the HVAC Shop will assist in locating gas lines, valves, dampers, air handlers, etc. and to make emergency repairs/shutdowns, if needed and safe to do so.

8. If the detector indicates natural gas is not present, EH&S will confer with the occupants and the person that called in the complaint that the odor is gone or if the odor is still present, that the odor may not be natural gas but something else. EH&S will work with the occupants, as well as Facilities staff, to determine the cause of the odor and if it causes a health or safety concern. Inform occupants that if the odor is currently absent but returns, to call it in again.
9. Customer Service and EH&S will log in the gas odor complaint in their respective logs and will log in any findings and follow ups to the gas odor complaint.
10. Downtown Plant will receive all natural gas odor complaints for Alumni Quad and the Downtown Campus and will have their own combustible gas detector. Same procedures as above to be followed and calls logged in Downtown log books.

***** If at any time, a person responding to a natural gas odor feels unsafe, evacuate the area and call National Grid and AFD or McKownville FD. UPD also needs to be notified.**

RESPONSIBILITIES:

EH&S will provide training on this protocol to all appropriate Facilities' employees. EH&S will provide the combustible gas detectors and will calibrate them every 3 months.

Supervisors will attend training and ensure their employees attend training and adhere to this protocol.

Employees will adhere to this protocol and inform their supervisor and EH&S about any problems with the combustible gas detectors.