



Pacific Gas and Electric Company

Gas Information Bulletin

Title: Inside Odor Investigation

Check all appropriate boxes

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> SAFETY ALERT | <input checked="" type="checkbox"/> GAS | <input checked="" type="checkbox"/> DISTRIBUTION | <input type="checkbox"/> SUBSTATION ENGR. |
| <input checked="" type="checkbox"/> MANDATORY COMPLIANCE | <input type="checkbox"/> ELECTRIC | <input type="checkbox"/> TRANSMISSION | <input type="checkbox"/> TRANS./SUB. M&C |
| <input type="checkbox"/> RECOMMENDED ACTIONS | <input type="checkbox"/> ESTIMATING | <input type="checkbox"/> OPERATIONS | <input type="checkbox"/> APPLICANT DESIGNER / CONSTRUCTION |
| <input type="checkbox"/> INFORMATIONAL/CLARIFICATION | <input type="checkbox"/> MAPPING | <input checked="" type="checkbox"/> SERVICE | |

This bulletin applies to Gas Field Services employees.

This bulletin applies to Gas Leak Surveyors when they detect **Grade 1 leaks within 5 feet** of a structure.

Since gas leakage inside a building can be especially hazardous, a gas leak or odor complaint reported inside **must** be investigated promptly. If a gas leak is found, the people, the property and finally the situation **must** be made safe. At a minimum, a Combustible Gas Indicator (CGI) or equivalent instrument and leak detection fluid is needed to perform an investigation. These tools will supplement the established leak procedures outlined in WP 6434-01.

A. Before entering the structure:

1. As one is approaching the location, be alert to indications that an outside leak may be causing the inside odor. Look for indications of recent or current construction, sunken trenches, washouts, sinkholes, vegetation damage, and any outside odors etc.
2. Turn on, purge, and zero the CGI instrument in an area free of natural gas prior to beginning the investigation.

Warning: Do not turn on flashlights, or bring portable or hand held radios, cellular phones, or pagers into a gaseous area. Any exception to this must meet the criteria contained within Numbered Document M-83.

3. Contact the customer. Admittance should be gained by knocking on the door. **DO NOT RING DOORBELL!** While awaiting the customer's response, begin the investigation by checking around the outside edges of the door, the keyhole and any mail slot which may be present. When the door is opened, and before entering, immediately test the environment for the presence of atmospheric readings.
 1. **If admittance is gained**, proceed to step C.
 2. **If admittance is not gained due to customer refusing entry**, inform the customer that you will perform a perimeter investigation to include but not limited to a check around windows, doors, crawl space vents, attic vents and other available openings for indications of gas leakage. Check around the foundation wall and along the gas service using a CGI. If gas is discovered through this process and the customer continues to refuse entrance for the purpose of performing an inside leak investigation do the following:
 1. Call service dispatch to request 911 assistance
 2. Notify Supervisor after calling dispatch to inform him/her of the situation
 3. **If admittance is not gained due to no answer**, perform a perimeter investigation to include but not limited to a check around windows, doors, crawl space vents, attic vents and other available openings for indications of gas leakage. Check around the foundation wall and along the gas service using a CGI and probe at the gas service riser, sewer service and water service entrance, if available within 5 ft of structure.

If gas is discovered through this process **move directly to Section D "Make Safe actions"**, apply "Do Not Enter" tape across all accessible entrances such as front door, side door, garage door etc and standby. If no indication of gas is found, take action in accordance with WP6434-01.

B. Upon entry to the structure:

1. Immediately upon entry, sample the atmosphere for natural gas. If a continuous reading of 1% gas in air or greater is obtained, a potentially hazardous situation may exist and the public should be immediately evacuated from the structure. Follow the instruction in section D "Make Safe Actions". **Remember: The first and foremost concern should be to protect the lives of the public and personnel.**
2. After initial tests indicate that a continuous reading is between 1% and 2% gas in air, which is considered safe for a qualified employee or emergency responder, wait for the fire department to assist with initiating ventilation prior to performing an inside investigation as described in section C below.

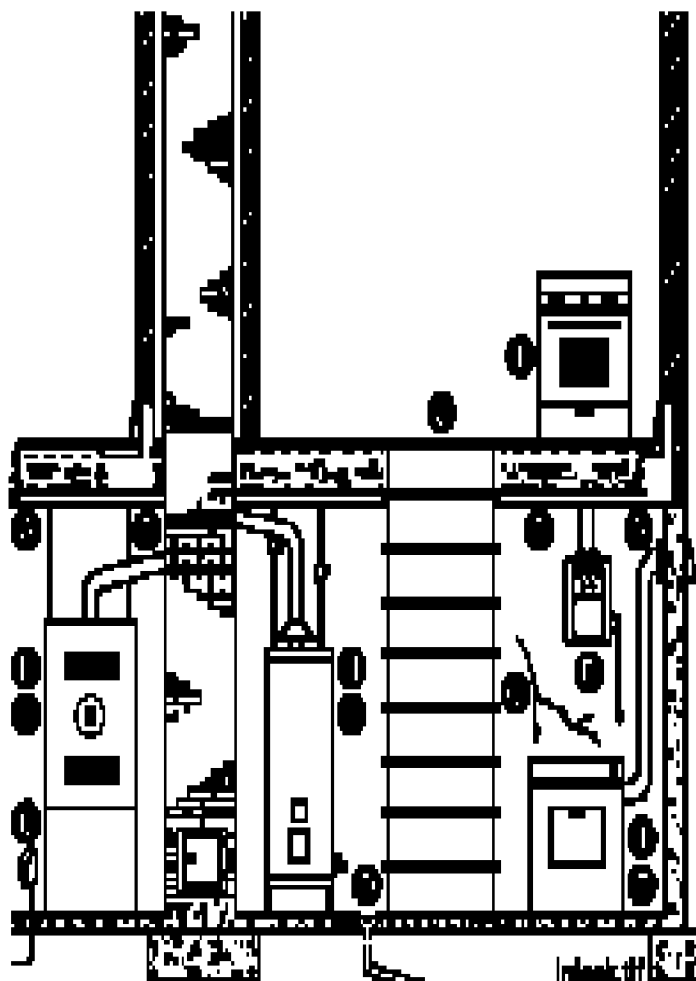
C. Inside Investigation

1. Upon entry to the structure first promptly test where the customer indicated the odor was most prominent.
2. If a basement exists, use a CGI to check for gas leaks from the top of the stairwell before going down into basement. Then proceed to a basement investigation. Do not turn on, or off, any lights until you have determined that it is safe to do so.
3. Then check all rooms for potential accumulation of gas (i.e., Kitchen, bathroom, family room, etc). If any continuous readings, between 1.0% and 2.0% gas-in-air are noted take the appropriate actions listed above. *If greater than 2.0% gas-in-air, move directly to Section D "Make Safe actions"*. If not, proceed to the remaining steps 2 thru 4.
4. Check the following as possible sources of gas leakage: appliances, around plumbing fixtures, conduit, retired piping, and cracks in basement walls, floor drains, and crawl spaces (see Figure 1). Conduct CGI tests in any accessible areas of the structure in which gas might accumulate, such as basements, crawl spaces, or closets and attics containing gas piping (if appropriate and safe ladders are available) or appliances. Personnel **shall** not enter nor perform work in confined spaces, crawl spaces, manholes, or vaults.
5. Complete a Full or Modified Leak Investigation *as outlined in WP 6434-01 (if not qualified, contact dispatch to request a qualified Gas Service Representative)*.

Notes:

- **Always presume a gas leak exists until proven otherwise.**
- **If a gas leak is found, do not assume it is the only one.**
- **Do not rely on a lack of odor as an indication of no gas leak. Even when gas is properly odorized, the odorant may have been stripped from the gas when the gas migrated through the ground.**

Figure 1 – Recommended Locations to Test for Inside Gas Leaks



- A. Corners near ceiling.
- B. Beam fill along walls.
- C. Water service.
- D. Floor drains.
- E. Near floor along walls.
- F. Gas service.
- G. Cracks in walls or floor.
- H. Near gas appliances.
- I. Flexible connectors.*
- J. At top of stairs.

Note: Perform check near the fireplace vents and draft diverter because a downdraft could cause combustion gases to come into the building.

**Flexible connectors, also known as range connectors, can be found on gas ranges, gas dryers, gas water heaters, and furnaces.*

6. Perform a perimeter investigation to include but not limited to a check around windows, doors, crawl space vents, attic vents and other available openings for indications of gas leakage. Check around the foundation wall and along the gas service using a CGI and probe at the gas service riser, sewer service and water service entrance, if available within 5 ft of structure.

D. "MAKE SAFE" actions:

Remember: Upon attaining a continuous reading of 2% or greater gas in air, all employees and first responders must evacuate the structure and perform the following actions

1. Remember the fire triangle (oxygen, fuel, ignition), and eliminate sources of ignition and fuel before ventilating the building.
2. Turn off the gas at the meter or curb valve.

3. Contact Dispatch to request 911 assistance and have ignition sources isolated (electric/telephone).
Warning: Do not shut off the electric at the panel. Do not pull the electric meter to disconnect service. Have the electric service cut off at the pole or box.
4. Notify Supervisor after calling dispatch to inform him/her of the situation
5. Wait for the fire department to assist with initiating ventilation
6. Use a CGI to check buildings in the immediate area for any indications of gas where evacuated persons have been taken.
7. Use a CGI to check nearby buildings, available underground openings (such as sewers and check valve boxes), and any areas of recent excavation activities.
8. Attempt to vent manholes and meter boxes, etc. if gas is indicated.

DEFINITION OF TERMS:

CGI Combustible Gas Indicator

Approved by:

Robert P. Fassett

Date: 04/02/2009

Author: [REDACTED]

If you have any questions about this bulletin, please call the employee(s) listed below:

Contact(s): [REDACTED]
LAN ID(s): [REDACTED]
Phone(s): [REDACTED]