

Standard Operating Guideline 9
Carbon Monoxide Response

Revised Jan. 1999

Purpose

- Establishes a guideline for the fire district's response of carbon monoxide (CO) incidents.
- Rescinds preceding protocols and supersedes all memos and directives pertaining to carbon monoxide incident response.

General

- Carbon monoxide is an odorless, tasteless, colorless gas that is deadly. It is a by-product of a fuel burning process. Many appliances such as furnaces, kitchen stoves, hot water heaters, automobiles, etc. can produce carbon monoxide. Unlike natural gas and propane, there is no added odor to the gas that would help indicate its presence. When a faulty or unusual condition exists, carbon monoxide may be vented into areas where people are present.
- Carbon monoxide poisoning may be difficult to diagnose. Its symptoms are similar to the flu, which may include headache, nausea, fatigue and dizzy spells (SEE APPENDIX A).
- The Occupational Safety and Health Administration has established a maximum safe working level for carbon monoxide at 35 parts per million (PPM) over an 8 hour period in the general workplace. The US Environmental Protection Agency has established that residential levels are not to exceed 9 PPM over an 8 hour average.
- The gas company will not respond to all carbon monoxide (CO) investigations. They will respond only if the initial call received by them indicates that someone is ill or if the fire department requests that they respond to the scene.

Guidelines

- The dispatcher shall attempt to verify if the detector that is sounding is a smoke detector or a carbon monoxide detector.
- If it is a smoke detector, the dispatcher will dispatch the appropriate fire district units.
- If it is a carbon monoxide detector:
- Determine if any persons at the scene are exhibiting symptoms of carbon monoxide poisoning.

- If yes, both the fire district and EMS are dispatched as a emergency response (lights and siren).
- If no, only the fire district is dispatched as a non-emergency response to conduct an investigation.
- Normal fire district response shall be one apparatus to secure the scene and trained gas meter operator will respond with the multi-gas meter.
- The dispatcher should advise the caller to have all people evacuate (leave) the building and close all windows and doors. This is to allow monitoring of the possible gas levels.
- The first arriving fire unit shall establish scene control as per Incident Management System Guidelines.
- Have the residents remain outside, till carbon monoxide levels can be determined.
- If rescue should be necessary, wear full personal protective equipment.
- If needed request EMS response.
- The incident commander may request that the gas company respond if it is a gas supplied building

Carbon Monoxide Investigations (Guideline)

- Turn on the multi-gas meter in fresh air outside the premises. Press “on” button and allow for meter to warm-up. The meter is ready when the display scans through sensors O₂, CO, and GS. The reading for “CO” is in parts per million (PPM).
 - Initiate a survey of the premises to determine if there are any sustained amounts of carbon monoxide present.
 - Utilize checklist.
- Initial Survey
- Conduct survey of every room on each level including attics, basements, cellars, storage spaces, and attached garages.
 - Adequate time must be allowed for meter to sample air quality in each location (3 - 5 seconds) before moving on with sampling.
 - Closer air sampling is required around fuel burning appliances, flues, and chimneys.
 - If a source of CO is identified, take appropriate action and continue survey.
 - Once initial building survey has been completed, continue with secondary survey.

Secondary Survey

- Cease ventilation if not already done so.
- Try to recreate conditions prior to CO detector activation.
- Activate all fuel burning appliances and reevaluate CO levels after appliances reach proper operating temperatures (approx. 10 - 15 minutes).
- Reevaluate every room on each level with closer sampling around fuel burning appliances, flues, and chimneys.

Acquired Readings

- Sustained or varying Readings of 8 PPM or less:
 - Inform the occupants that our instrument did not detect an abnormal elevated level of CO at this time.
 - Recommend occupants to check their CO detector per manufacturer recommendations.
 - Attempt to reset detector.
 - Inform occupants that if it activates again, call the fire district.
- Sustained Readings of 9 PPM or more but less than 100 PPM:
 - Any sustained reading of 9 PPM or greater shall be considered an above normal reading.
 - Occupants shall be informed that we have detected a potentially dangerous level of CO.
 - If it is determined that an appliance is malfunctioning and _____ thereby producing excessive CO, it shall be shut down.
 - Once the premises has been reduced to a safe level of CO, the premises may be reoccupied at the discretion of the occupant.
 - Attempt shall be made to reset the detector.
 - Inform occupants that if it activates again, call the fire district.
 - The occupants shall be informed of the action that has taken place and that the gas company has been requested to respond (if applicable).
- Sustained Readings of 100 PPM or greater:
 - Any sustained reading of 100 PPM or greater - inform the occupants that we have detected a potentially lethal level of CO.
 - If it is determined that an appliance is malfunctioning and thereby producing excessive CO, it shall be shut down.
 - Once the premises has been reduced to a safe level of CO, the premises may be reoccupied at the discretion of the occupant.
 - Attempt shall be made to reset the detector
 - Inform occupants that if it activates again, call the fire district.
 - The occupants shall be informed of the action that has taken place and that the gas company has been requested to respond (if applicable).