



Columbia Fire Department

Standard Operating Guideline OPS-024

Response to Carbon Monoxide

Effective: January 11, 2010

Issued by Wm. Bradley Anderson, Fire Chief

Rescinds: OPS-024 Carbon Monoxide Incidents dated 10/08/99

Purpose: To establish a guideline for responding to a Carbon Monoxide incident.

Scope: This guideline applies to all suppression personnel.

Guideline: Carbon Monoxide (CO) is an odorless, colorless, and tasteless gas that can be deadly. It is a by-product of combustion, and is produced by many appliances such as furnaces, kitchen stoves, water heaters, automobiles, etc. When a device is faulty or other conditions exist, carbon monoxide may be improperly vented into areas of a structure.

I. Safety

- A. Safety of responders and the public is the first priority when responding to a Carbon monoxide emergency.
- B. Carbon monoxide poisoning may be difficult to diagnose. Its symptoms are similar to that of the flu, which may include headache, nausea, fatigue and dizzy spells for low levels and convulsions, unconsciousness, and death for high levels.
- C. Carbon Monoxide is a combustible gas and should be treated with caution.

II. Carbon Monoxide Incidents

- A. Carbon Monoxide incidents will be categorized as a Carbon Monoxide emergency, or a Carbon Monoxide alarm by Columbia Central and dispatched according to the severity.
- B. Carbon Monoxide Alarm
 1. These calls are treated as non-life threatening and should be responded to non-emergency.
 2. Callers that report an activated Carbon Monoxide detector and no one in the structure is experiencing symptoms of Carbon Monoxide poisoning, Columbia Central will dispatch the closest unit to the location.
- C. Carbon Monoxide Emergency
 1. These calls are treated as potentially life threatening and should be responded to emergency.
 2. Callers that report an activated Carbon Monoxide detector and

occupants in the structure are experiencing symptoms of Carbon Monoxide poisoning Columbia Central will dispatch a structural response to include Haz-Mat 1 to the location.

3. When Carbon Monoxide poisoning is suspected, Richland County EMS is to respond.

III. Response to Carbon Monoxide Alarms

- A. Responding personnel may dress down to these incidents, similar to a false fire alarm response.
- B. Upon arrival interview the occupant(s) to identify if the presence of Carbon Monoxide is likely. The following questions should be answered prior to making entry.
 1. Why does the occupant suspect Carbon Monoxide?
 2. Does the structure have gas service to it?
 3. Does the structure have a Carbon Monoxide detector?
 4. Does anyone in the structure have symptoms that are indicative of Carbon Monoxide exposure?
 5. Are there any gas appliances in the structure? If so have they been serviced?
 6. Has there been any service performed on any gas appliances recently?
 7. Has there been any abnormal use of gas appliances recently? i.e. first time using the gas furnace for the season.
 8. Is there an attached garage?
 9. Has there been any gasoline equipment operated in or near the structure recently?
- C. Once answering these questions and Carbon Monoxide is suspected, Haz-Mat 1 or a Haz-Mat Support Company are to be requested to monitor the structure.
- D. Do not attempt to ventilate the structure. It is best to leave the structure closed up in order to obtain an accurate reading on the meters.
- E. Personnel should take appropriate actions based on the recommended action levels in section V.
- F. If it is not likely there is Carbon monoxide in the structure further investigation may be needed.
 1. Inspect the carbon monoxide detector to confirm it is not a smoke detector.
 2. Check the battery to ensure proper operation
 3. Check the rear of the unit for instructions to ensure proper operation.

IV. Response to Carbon monoxide Emergencies

- A. Responding personnel should be dressed in full protective clothing and SCBA at all times.

- B. If the structure has not been evacuated, ensure it is completed immediately. Have all occupants stay in a fresh air environment.
- C. Check all occupants for symptoms of Carbon Monoxide exposure, and treat accordingly. Request an ambulance if one is not already responding.
- D. Interview the occupant(s) to identify if the presence of Carbon Monoxide is likely. The following questions should be answered prior to making entry.
 - 1. Why does the occupant suspect Carbon Monoxide?
 - 2. Does the structure have gas service to it?
 - 3. Does the structure have a Carbon Monoxide detector?
 - 4. Does anyone in the structure have symptoms that are indicative of carbon Monoxide exposure?
 - 5. Are there any gas appliances in the structure?
 - 6. Has there been any service performed on any gas appliances recently?
 - 7. Has there been any abnormal use of gas appliances recently? i.e. first time using the gas furnace for the season.
 - 8. Is there an attached garage?
 - 9. Has there been any gasoline equipment operated in or near the structure recently?
- E. Do not attempt to ventilate the structure. It is best to leave the structure closed up in order to obtain an accurate reading on the meters.
- F. Haz-Mat or Haz-Mat support personnel will enter the structure for the purpose of atmospheric monitoring.
- G. Personnel should take appropriate actions based on the recommended action levels in section V.

V. Carbon Monoxide Action Levels

A. Readings less than 10 PPM

- 1. Inform the occupants that the investigation did not detect any elevated level of CO at this time. Any reading greater than 10 PPM will be considered above normal reading.
- 2. Recommend occupants check their CO detector per manufacturer recommendations.
- 3. Attempt to reset detector. If detector is an older model suggest that it be replaced.
- 4. Inform occupants that if the detector activates to call 911.

B. Readings of 10 PPM, but less than 100 PPM

- 1. Inform occupants that a potentially dangerous level of CO has been detected.
- 2. Evacuate all occupants from the premises to fresh air. Recommend that occupants be checked by RCEMS

3. Notify the gas company.
4. If it is determined that an appliance is malfunctioning and thereby producing CO, it will be shut down.
5. Once the gas company has arrived a plan of action will be determined.
6. Once the premise has been reduced to a safe level of CO, the premises may be occupied.
7. Attempt to reset the detector.
8. The occupants will be informed of the actions taken and recommendations for correction.
9. Inform occupants that if the detector activates again to call 911.

VI. Haz-Mat and Haz-Mat Support Company Actions

The following is the normal process that will occur once Haz-Mat 1 or a Haz-Mat Support Company arrives on scene. It is important that one of these companies arrive on scene in order to properly confirm Carbon Monoxide and possibly identify the source. The following actions should take place.

1. The Haz-Mat officer will report to the Incident Commander and formulate a plan of action based on past and current situation.
2. Haz-Mat personnel will monitor the atmosphere.
3. Meet with the gas representative once on scene.
4. Isolate gas if needed based on readings
 - **An attempt to isolate the leaking appliance will be made prior to isolating the meter if possible.
5. Ventilate the structure accordingly.
6. Monitor to confirm structure is safe.