

Central Joint Fire District

Standard Operating Procedure



Central Joint Fire District

SUBJECT: Carbon Monoxide Incidents

SOP Number: 341

Effective Date: 10/01/96

Revised Date:

Approved:

PURPOSE: Establishes a procedure for the Central Joint Fire District response to reports of carbon monoxide CO incidents.

SCOPE: This standard applies to all department personnel conducting or involved in Carbon Monoxide Incidents.

ENFORCEMENT: Responsibility for adherence to this standard rests with each member of the Fire Department. Authority to deviate from this standard rests with the Incident Commander and/or Safety Officer who bear full responsibility for the results of any deviation.

APPLICATION:

341.1 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, portable heaters, clothes dryers, etc. can produce carbon monoxide. Due to a faulty appliance, blocked or improper venting or other unusual conditions, carbon monoxide may be vented into areas where people are present.

Carbon Monoxide poisoning can produce symptoms of headaches, dizziness, weakness of limbs, confusion, nausea, unconsciousness and fatigue.

The Occupational Safety and Health Administration (OSHA) has established a maximum safe working level for Carbon Monoxide at 35 parts per million over an eight hour period in the general workplace with a ceiling level of 200 ppm not to be exceeded at any time. The U.S. Environmental Protection Agency has established that residential levels are not to exceed 9 ppm over an eight hour average.

341.2 Procedures

All department personnel will familiarize the proper operation of the Survivair Model SVA-722 for carbon monoxide detection.

If alarm is received that a CO detector has been activated

- Determine if any symptoms are present with occupants in the home
- If symptoms are present, advise occupants to exit the house and to make contact with the firefighter on his arrival

- Incident Commander will determine whether to respond a squad

On the scene the firefighter will again determine if anyone is exhibiting symptoms of possible Carbon Monoxide poisoning, if so

- Immediately evacuate residents from premises
- Request EMS response if necessary
- Begin investigative procedure

If no one exhibits any symptoms of Carbon Monoxide poisoning, it will not be necessary to evacuate or ventilate the premises unless a level of over 9 ppm is detected by the meter.

The proper gas company will be called if over 9 ppm is indicated on the meter and there is a suspected natural gas appliance involved.

341.3 Recommendations to Occupant

Reading of 9 ppm or less

- Inform occupants that our instrument did not detect an elevated level of CO at this time
- Recommend to occupants to check their CO detector per manufacturer recommendations
- Attempt to reset detector

Readings above 9 ppm, but less than 100 ppm

- Any reading above 9 ppm will be considered above normal reading
- Occupants shall be informed that we have detected a potentially dangerous level of CO
- Recommend that all persons leave the premises and begin ventilation after locating the source
- If it is determined that an appliance is malfunctioning and thereby producing CO, it shall be shut down
- Once the premises have been reduced to a safe level of CO, the premises may be occupied - at the discretion of the occupant
- Attempt will be made to reset the detector

Readings of 100 ppm or greater

- If a reading is 100 ppm or greater, inform the occupants that we have detected a potentially lethal level of CO
- Order the occupants to vacate the structure immediately
- If it is determined that an appliance is malfunctioning and thereby producing the CO, it shall be shut down
- Once the air in the premises has been reduced to a safe level of CO and the source has been identified and secured, the residence may be occupied - at the discretion of the occupant.
- It will be the homeowner or occupant's responsibility in contacting a repair technician to fix any appliance (furnace, stove, water heater, etc.) that has contributed to a CO build-up

- Any reading above 400 ppm in the residence shall dictate the immediate use of SCBA by the firefighter before continuing investigation.

341.4 Carbon Monoxide facts

- Danger levels from Niosh Carbon Monoxide IDLH (immediate danger life hazard) is at 1500ppm
- TWA (time weighted average) is at 35 ppm (up to 10 hr. work day during 40 hr. work week.
- Ceiling levels (NIOSH and OSHA) 00 ppm (should not exceed any time)

Toxicology levels from Sax Manual

- 400-500 ppm for one hour with no appreciable affects
- 600-700 ppm for one hour with barely appreciable affects
- 1000-1200 ppm for one hour is dangerous
- 4000 ppm and over is fatal in less than one hour