Manasquan Fire Department
Manasquan Fire District #1
Standard Operating Guideline

500.02

Title: Carbon Monoxide Incident Guidelines

Date Issued: July, 2007
Date Last Revised: NEW
Revision Number: NEW
Total Pages: 5

Purpose: To establish the Fire Department's response, investigation, and possible remedial actions in regards to carbon monoxide incidents and alarms.

Scope: This policy will outline the response of the Fire Department, when responding to a carbon monoxide alarm/incident. It will also detail what procedures are to be followed regarding recognition, investigation, notification, and possible remedial actions that may be undertaken to alleviate the situation.

General: These guidelines are designed to help responders help the residents while providing for their safety. It will also provide for determining the level of care affected residents may need, the methods of obtaining CO readings, recording of findings, and when to allow residents to remain or return to the affected building. These procedures can help in finding a significant source of CO in the building. It is possible that other professionals with technical expertise will need to be called to find the cause of elevated levels of CO.

500.02.01 Responding To Carbon Monoxide Incidents

Incident Objectives

1. Determine how much assistance occupants need.
2. Ensure responders protection from CO when entering the building.
3. Confirm whether a CO hazard exists.
4. Make a preliminary assessment of the potential sources of elevated CO.
5. Give advice to the occupants on how to make the home safe for re-entry.

Response

Standard response will be two fire apparatus and one EMS unit.

The Incident Commander may change the amount of resources dispatched and responding based upon the information received at the

time of the call.

On Scene Procedures

STEP 1. Level of Care Determination Needed For Occupants

A. Occupants Outside The Building

If residents are outside find out if thy have any symptoms of CO poisoning. Such as dizziness, nausea, headache, chest pain, confusion, shortness of breath, and general lethargy. If yes have them checked by EMS.

B. Occupants Inside the Building

1. All responders entering the structure will use PPE and SCBA.
2. Take a CO meter reading outside the building, ensure you are clear of any vehicles exhaust etc. Record reading on CO Measurement Form. (COMF)
3. While at the doorway take a second reading with the meter. Record this reading COMF.
4. Make sure members continue to be properly protected until safe CO levels are attained. Leave windows and doors open or closed – just as you found them – until you begin Step 3.
5. Take all residents outside. Occupants should remain outside until investigation is concluded and re-entry is authorized.
6. Determine the medical condition of occupants as mentioned in section A.

STEP 2. Identify Potential Sources of Elevated CO

Potential Sources of CO

Automobiles in attached garages, gasoline, diesel, or propane fueled appliances, lawn mowers, generators, water heaters, clothes dryers, natural gas or propane refrigerators, ranges, ovens, space heaters, fireplaces, gas logs, wood and coal stoves, charcoal or gas grills, kerosene heaters, and any other equipment that burns fuel.

Refer to *CO sources and clues sheet* form CO-3, at the end of this guideline.

STEP 3. Take Indoor CO Measurements

A) Before taking indoor CO readings

1. Plan to take one set of CO measurements in areas or rooms where there are potential sources of elevated CO that were in operation at the time of the call or were in use 24 hours prior to the call.
2. Plan to record the meter readings on the COMF.

B) Taking indoor CO measurements

1. After taking indoor readings, remember to subtract the outdoor reading. Example: if you obtained an outside reading of 15 PPM outside the building prior to entry and you now have a reading of 45 PPM, the indoor contribution would be 30 PPM.
2. Close all windows and doors. Turn on the fuel burning appliances and other CO sources **that have been in operation for the past 24 hours.** Allow them to reach operating temperature (15 minutes.) Be sure to put pots of water on range burners because cold pots on the burner can elevate CO readings.
3. Measure and record indoor CO levels throughout the house. Take measurements in the center of each room 5 feet away from any potential CO source.
4. When you have finished taking measurements and elevated CO readings were found open all windows and ventilate building.

STEP 4. Evaluate Information

1. Review the CO measurements that were taken.
2. Consider possible sources of the CO.
3. Make notifications to outside agencies if needed. (NJR if building is serviced by gas etc.)

STEP 5. ACTIONS AND ADVICE TO OCCUPANTS

CO Levels: 70 PPM or Higher

1. If the source of the CO appears to be a vehicle or an appliance such as a lawn mower or generator, in a garage, then,
    a) Turn off the engine
    b) Shut off the fuel source if possible.
    c) Advise the residents that dangerous levels of CO have been detected and they should not use the appliance until serviced by a qualified technician.

2. If you believe that misuse is the cause of the CO, then educate the resident in proper use of the equipment.

3. If you cannot find a source of the CO or if you have any concerns advise the occupant to contact a qualified technician to address the problem.

4. Advise residents that they can return to the building after it is cleared of CO. When meter readings are 30 PPM or less they may return. If the CO alarm in the building is still sounding a readings are 30 PPM or less remove the detector and advise the owner to replace the CO detector ASAP.

5. Advise the occupants to have their fuel burning equipment inspected immediately and maintained yearly by qualified technicians.

6. Advise all residents to call again if their CO alarm sounds.

CO Levels: Between 30 PPM and 70 PPM

1. If the source of these CO levels appears to be a vehicle or an appliance, such as a lawn mower or generator: in a garage, then:
    a) Turn off the engine if still on.
    b) If you suspect that one of the above had been idling in the garage several hours earlier, and is the cause of the CO. then advise the occupant that engines should not be operated in attached garages even if the doors are open.

2. If the source of these elevated CO levels appears to be a permanently Installed appliance or a portable appliance, then:
    a) Turn off the appliance.
    b) Advise the occupant that potentially dangerous levels of CO have been detected and that they should not use the appliance until the exact cause of the CO levels has been identified and corrected by a qualified technician.

3. If you cannot find the source of the elevated CO, then advise the resident to call a qualified technician immediately. If the structure is serviced by natural gas, the Incident Commander will notify NJR to respond.

4. Advise occupants that they can return to the building after it is cleared

of CO. Occupants will be allowed to return when meter readings are below 30 ppm. If resident's CO alarm is still sounding, remove it and advise owner to have it replaced.

5. Advise occupants to have their fuel burning appliances inspected Immediately and maintained yearly by qualified professionals.

6. Advise occupants to call again if their CO alarm sounds.

CO Levels: Less Than 30 PPM

1. Advise occupants that you did not find high levels of CO.

2. If the call was in reference to a sounding CO alarm, advise the resident to review the manufacturer's instructions about a sounding CO alarm. Note that detectors made prior to October 1998 are subject to nuisance alarms. Advise occupants to replace these detectors if present.

3. Advise occupants to call if their CO alarm activates.

STEP 6: Advice and Follow-up

1. Fill out A*dvice for Residents* form # CO-1, and give to occupant.

2. Attach copy of *CO Measurement* form # CO-2, and attach to run sheet

.