CARBON MONOXIDE ALARMS RESPONSE SOG

SCOPE

This guideline shall apply to all members of the Stoney Point Fire Department and shall be adhered to by all members.

PURPOSE

The purpose of this guideline is to explain the guidelines expected by all personnel at the SPFD when carrying out fire suppression responsibilities of Natural Gas Incidents.

DEFINITIONS

SHALL - Indicates a mandatory requirement.

STANDARD OPERATING GUIDELINE (SOG) - Documents that help establish how an organization will operate and how its members are expected to carry out specific duties outlined in general terms.

GUIDELINES

SITUATION:

The use of Carbon Monoxide (CO) Detectors has risen dramatically and as a result, so have responses to CO Detector activations.

Carbon Monoxide is an odorless, tasteless and colorless gas produced as a product of burning fuels. The gas can be deadly. Common household appliances such as kitchen stoves, furnaces, water heaters, and unvented fuel heaters all produce carbon monoxide (even cars, lawnmowers, and other fuel burning equipment).
Carbon Monoxide poisoning is difficult to diagnose. Symptoms include headache, nausea, fatigue and dizziness (flu-like symptoms, with the primary difference being that the flu seldom affects all occupants in a building at one time).

OSHA has determined that 35 ppm is the maximum allowable concentration for continuous exposure in any 8 hour period. The EPA has established that residential levels are not to exceed 9 ppm over an 8-hour average.

**METERS:**

Meters capable of detecting carbon monoxide levels are on all Engine Co’s. The meter will be used to monitor the atmosphere during any suspected carbon monoxide investigation. Each monitor shall be examined, tested, and the results logged on a daily basis. Any problems shall be reported to the shift leader so a work order can be prepared.

**Fire Department Alarm Procedure:**

a. Upon arrival a representative from the fire department shall immediately make contact with the building occupants.

b. Determine if the building occupants are experiencing any symptoms of carbon monoxide poisoning (use the carbon monoxide detector checklist).

   **IF YOU OBSERVE ANY OF THE SYMPTOMS OF CARBON MONOXIDE POISONING, HAVING TROUBLE BREATHING OR HAVE ANY DOUBTS ABOUT THEIR SYMPTOMS, REQUEST AN AMBULANCE TO RESPOND. IMMEDIATELY CONDUCT A SEARCH OF THE BUILDING TO ASSURE IT HAS BEEN EVACUATED.**

c. Determine the location, type (smoke or carbon monoxide detector) and cause of the alarm (low battery indication, poor location of device, etc.)

d. Assure everyone is evacuated and conduct an investigation to the cause of the detector activation.
Investigation Procedure:

a. Once everyone has been evacuated from the building, the investigation can be initiated.

b. Assign at least 2 fire fighters, equipped with SCBA, the meter and a portable radio to conduct a search of the building. All of the investigating team shall don SCBA until the level of carbon monoxide in the building can be determined.

c. Locate the activated detector and determine that it has been installed properly. Carbon monoxide detectors shall not be mounted as follows:

1. Within 5 feet of heating or cooking appliances.
2. In enclosed closets.
3. In furnace or water heater rooms (start-up of these appliances can cause an unnecessary alarm).
4. Also check to assure that the detector was not activated by steam from a shower or bath.

d. Calibrate the meter in fresh air and comply with start up procedures as recommended by the manufacturer of the meter.

e. Initiate the survey to determine if any areas contain levels of carbon monoxide above 9 ppm (this should be an “open air” survey of each room; you may want to start the investigation in the area where the carbon monoxide detector is installed).

f. All members shall continue use of SCBA in any atmosphere that is in excess of 35 ppm carbon monoxide.

g. All possible sources of carbon monoxide shall be checked for problems. Refer to the checklist for potential sources (remember when checking appliances, it must be operating for a few minutes).

h. If an appliance is found to be faulty, immediately secure ALL sources of power to that appliance and notify the utility company of appliances you shut off (a leak detected at a furnace room register may indicate a cracked heat exchanger).

Tactical Standard Operating Guidelines (SOG)

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I. Ventilate as necessary

**Using the Results:**

a. Explain to the owner or responsible person in the building what actions were taken and have them sign the **NOTICE OF FINDINGS SHEET**.

b. Leave a copy of the form with the occupant to explain what levels of carbon monoxide were detected and the action they should take to correct the problem.

c. Readings of 9 ppm or less:

   1. Inform the occupants that the meter did not detect an elevated level of CO at this time.
   2. Recommend occupants check the CO detector per manufacturer recommendations.
   3. Attempt to reset detector.
   4. Inform occupants that if it activates again, call 9-1-1 immediately.

d. Readings of 9 ppm to 100 ppm:

   1. The meter has detected a potential dangerous level of carbon monoxide. Any reading above 9 ppm is considered above normal.

   2. Recommend that occupants leave the building since it may be unsafe to re-enter the building until repairs are made and the detector is reset or replaced as directed by the manufacturer specification.

   3. If an appliance is found to be faulty, it shall be shut down.

   4. Once the carbon monoxide in the premises has been reduced to a safe level, after ventilation, the premises may be occupied at the discretion of the occupant.

   5. Attempt to reset the detector.

   6. Inform occupants that if it activates again, call 9-1-1 immediately.
7. The occupants need to be informed of the action, which has taken place and that the gas company has been requested to respond.

e. Readings greater than 100 ppm:

1. Inform the occupants that the meter has detected a potentially lethal level of carbon monoxide in the building.

2. Have them leave the building immediately and that it is not safe to return until repairs are made or the source is found and corrected.

3. Advise them to have the sources of carbon monoxide examine and repaired by a qualified repair technician.

4. Replace or reset the detector according to manufacturer’s specifications.

f. Copies of the report shall be filled with the standard incident report forms.

REMEMBER, Carbon monoxide affects individuals differently depending on the size, conditions, age and medical history of individuals. Therefore, families with young children or members’ medical conditions, or aged individuals should take extra precautions in the event that carbon monoxide is detected.

For Carbon Monoxide Detector Activations utilize the following form:

(Carbon Monoxide Detector Activation Notice of Finding)
Notice of Finding

Carbon Monoxide is an odorless, tasteless, colorless gas that is DEADLY. It is a by-product of a fuel burning process. It can cause symptoms that can mimic flu, cause unconsciousness and even death. Many appliances around the home are capable of producing carbon monoxide when faulty or unusual condition exists. Since the source may be transient in nature, the source may not always be detectable.

The Fuquay-Varina Fire Department responded to investigate a possible carbon monoxide problem at:

(Number)        (Street)    (Apt.# if applic.)

CARBON MONOXIDE was ( ), was not ( ) found by our instruments. This does not mean that this was a false alarm. Our instruments found the highest level of CO to be _______ p.p.m. (parts per million).

What does this reading mean?

9 p.p.m. Our instruments did not detect ELEVATED levels at this time. However, this does not mean that higher levels did not exist prior to our arrival or that higher levels will not accumulate after our departure. Check your carbon monoxide detector per manufacturer’s recommendations. Replace or reset detector as directed by manufacturer’s specification.

More than 9 p.p.m. Our instruments have detected potentially dangerous levels of carbon monoxide. We recommend that you leave this building immediately. We feel that it is unsafe to re-occupy this building until repairs are made and your detector is replaced or reset according to manufacturer’s specifications.

35 p.p.m. Maximum allowable concentration for continuous exposure in the work place in any 8-hour period according to OSHA Law.

100 p.p.m. We have detected a potentially lethal level of carbon monoxide in your home. Our recommendation is that you leave your building IMMEDIATELY. It is not safe until repairs are made and your detector is replaced or reset according to manufacturer’s specifications.

Carbon monoxide affects individuals differently on the size and medical history of the occupant(s). Therefore, families with young children, or members with medical conditions, or aged individuals should take extra precautions in the event that carbon monoxide is detected.

Incident Commander ________________________________ Date ______________________

Owner/Occupant ________________________________ Date ______________________