


SOG# 503-1	Standard Operating Guideline	Hazardous Materials	
	<h1 style="text-align: center;">Cumberland Road Fire Department Inc.</h1> <div style="border: 1px solid black; padding: 5px; text-align: center;">Carbon Monoxide Alarm Emergencies</div>	Approved By Steven W. Parrish, Fire Chief	
		Effective Date March 8, 2018	Revised Date August 23, 2023

Purpose:

This policy provides the Cumberland Road Fire Department personnel with the basic steps to take to ensure a safe response to alarms involving Carbon Monoxide (CO) and Carbon Monoxide detectors.

Definitions:

Carbon Monoxide (CO) - A colorless, odorless, toxic, flammable gas. It is a by-product of a fuel burning process. Any household appliance such as furnaces and kitchen stoves as well as automobiles can produce Carbon Monoxide. When a faulty device or unusual condition exists CO may collect in areas where people are present.

Carbon Monoxide detector - An electric and/or battery operated device that detects the presence of CO. Most CO detectors operate on an exposure time of 90 minutes.

Carbon Monoxide Exposure Symptoms – Symptoms that may include headache, vomiting, nausea, drowsiness, poor coordination, confusion, chest pain, shortness of breath, unconsciousness and/or coma as a result of CO exposure.


Scope:

It shall be the policy of the Cumberland Road Fire Department to respond, investigate and mitigate all carbon monoxide detector alarms to ensure the safety of the citizens and our personnel.

Procedure:

Suppression Unit Response


- First arriving units shall observe any persons who may have been exposed to CO and render immediate medical care as needed. A CCEMS Medic Unit/QRV should be requested as needed.
- All persons who have not evacuated the area where the CO may be present shall be asked to do so as quickly and safely as possible.
- A minimum number of no less than two personnel shall enter the area for initial air monitoring. CRFD personnel entering for monitoring shall be in full protective clothing to include SCBA.
- Note: If CO levels of 35 ppm are not reached during monitoring of the area at that time SCBA may be removed at the discretion of the Incident Commander.

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- If levels greater than 35 ppm are reached, the Incident Commander shall request a Hazardous Materials Team response.
- All potential sources of CO to include gas appliances, oil furnaces, kerosene heaters, and gasoline powered equipment that are connected to a chimney, fireplaces, gas logs and vehicles shall be identified and isolated.
- Air monitoring shall be performed around all potential sources of CO to determine if a possible release is present.
- If Carbon Monoxide levels are not detected; the Incident Commander shall notify the occupants of the findings and the incident may be terminated.
- If any levels of Carbon Monoxide are detected the Incident Commander shall be notified of the findings. The Incident Commander should make contact with Haz Mat and no ventilation done until Haz Mat has evaluated the area.
- Note: If ventilation must be performed, DO NOT use fans with internal combustion engines.
- Air monitoring should be repeated after ventilation is conducted to determine if it was sufficient to lower the levels of Carbon Monoxide. If levels do not decrease then ventilation must continue.
- In the event that ventilation lowers the levels of CO to the acceptable level, the Incident Commander shall notify the occupants of the findings and the incident may be terminated.

Hazardous Materials Team Response

- Upon arrival of the Hazardous Material team or CCEMS QRV, any person showing signs of CO exposure will be evaluated using the Pulse CO – Oximeter to check for levels of CO in the blood. Any readings greater than 5% and less than 8% will require oxygen therapy and re-evaluation in fifteen minutes. Victims will be advised that they should consider transportation to a local medical facility if there are no improvements within thirty minutes. CO levels greater than 20% should be considered as automatic transport criteria. A medic unit should be requested and information relayed if these levels are found.
- Haz-Mat will assist the IC and suppression unit with air monitoring, ventilation, and locating and isolating the source of the carbon monoxide.

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Incident Termination

The following conditions must be met prior to turning the structure over to the owner or occupant:


- The source of the carbon monoxide must be isolated and controlled.
- Carbon monoxide levels must be at safe and acceptable levels as determined by the IC.

Documentation

- All on-scene actions and monitor readings shall be documented in the incident report in Emergency Reporting RMS.
- CRFD Form Notice of Dangerous Situation shall be filled out, signed and a copy given to the owner or occupant.
- CRFD Form Checklist for Carbon Monoxide Emergency may be used as a checklist during the investigation.
- Any and all forms used should be scanned and attached to the report in Emergency Reporting RMS.

Responsibilities:

It shall be the responsibility of each member of the department and supervisors to ensure that the provisions of this standard are followed.

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Forms:

**Notice of Dangerous Situation
Carbon Monoxide Alarm Emergency**

The Cumberland Road Fire Department responded to a structure at: _____ on _____, 20____. Carbon monoxide level of _____ppm was discovered.

You are advised to immediately

_____ **No Carbon Monoxide (CO) detected:**

Check your carbon monoxide detector per manufacturer’s recommendations and correct any defects. If the carbon monoxide detector activates again, call 9-1-1.

Our instrument did not detect elevated level of CO at this time.

_____ **10-50 ppm of Carbon Monoxide (CO) detected:**


We have detected potentially dangerous levels of CO. We recommend that you ventilate the home and not operate combustion appliances until repairs are made and /or the source of CO is found and eliminated. We further recommend that all occupants evacuate the building until the source of CO is found and eliminated, particularly the higher risk family members present, such as pregnant women, infants and elderly or those with cardiac or lung disorders. We advise that you to contact a licensed HVAC or appliance repair contractor or your fuel utility for assistance in identifying and repairing the source of CO contamination.

_____ **50 ppm or above of Carbon Monoxide (CO) detected:**

We have detected high levels of CO that may potentially be lethal. You are ordered to leave your home immediately. It is not safe until the source is found and corrected and any necessary repairs are made. Have your sources of carbon monoxide repaired by a licensed contractor. Shut off or eliminate the potential source of carbon monoxide. Consider out sources of carbon monoxide.

Fire Department Representative: _____ Date: _____

Owner/Occupant: _____ Date: _____

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Checklist for Carbon Monoxide Emergencies

Location of Incident:	Date:

Checklist

Headaches:	Yes	No
Fatigue:	Yes	No
Nausea:	Yes	No
Dizziness:	Yes	No
Does anyone in the structure fell ill:	Yes	No
Do they feel better when removed from structure:	Yes	No

CO Source Checklist

		Location	PPM Reading
Chimney	Clogged flue, blocked opening		
Fireplace	Gas or wood		
Portable Heater	Emissions		
Gas Dryer			
Over/Stove			
Furnace	Gas/Oil; leaking flue/chimney pipe		
Barbecue Grill	In enclosed area		

Vehicle Garage	Vehicle started or running recently		
Operating Fireplace w/HVAC	Possible Backflow		
Other			
Other			
Other			

CO Detector:	Make:	Model:	Serial #:
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Location in Structure:	
Person Completing Checklist:	