

	<b>West Fargo Fire &amp; Rescue Standard Operating Guideline</b>			Authorized by:  D. Fuller Fire Chief
	Subject: CARBON MONOXIDE RESPONSE			
	Section: OPERATIONS	Date Authorized:	Date Reviewed:	
	Number: 218	8/5/2015	11/1/2017	

**Intent**

The intent of this SOG is to establish a procedure for responding to, operating at, and mitigating carbon monoxide incidents.

**Definitions**

*Carbon Monoxide (CO)* -is an odorless, colorless and tasteless gas that is deadly. It is a by-product of combustion. Many appliances such as furnaces, kitchen stoves, hot water heaters, automobiles, etc., can produce carbon monoxide. When a faulty device or unusual conditions exist, carbon monoxide may be vented into areas where people are present. 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.

Concentration	Symptoms
35 ppm (0.0035%)	Headache and dizziness within six to eight hours of constant exposure
100 ppm (0.01%)	Slight headache in two to three hours
200 ppm (0.02%)	Slight headache within two to three hours; loss of judgment
400 ppm (0.04%)	Frontal headache within one to two hours
800 ppm (0.08%)	Dizziness, nausea, and convulsions within 45 min; insensible within 2 hours
1,600 ppm (0.16%)	Headache, tachycardia, dizziness, and nausea within 20 min; death in less than 2 hours
3,200 ppm (0.32%)	Headache, dizziness and nausea in five to ten minutes. Death within 30 minutes.
6,400 ppm (0.64%)	Headache and dizziness in one to two minutes. Convulsions, respiratory arrest, and death in less than 20 minutes.
12,800 ppm (1.28%)	Unconsciousness after 2-3 breaths. Death in less than three minutes.

**Guideline**

Once members arrive on scene, they should first interview the occupants(s) to determine the following:

- If any occupants are or have been feeling ill. If so, request an ambulance
- The number and location of any CO detectors which have been activated
- The location of any combustion equipment or appliances.
- The interview should take place outside of any suspected contaminated areas.

Take the first reading just inside the doorway to determine initial CO level. Personnel should then begin monitoring the lower levels of the building and then proceed to the higher levels.

- If a reading of 35 ppm or greater is detected, the building or effected area shall be evacuated immediately and full turn out gear and SCBA shall be utilized during the investigation.
- If a reading of 9 ppm or less is detected:
  - Inform the occupant(s) that our instrument did not detect an elevated level of CO at this time.
  - Recommend occupant(s) check their CO detector per manufacturer’s recommendations.



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- Advise the occupant(s) to reset the CO detector, if applicable, according to the manufacturer's instructions.
- Inform the occupant(s) that if the detector reactivates or they feel there may be a problem, to call 911.
- If a reading above 9 ppm and below 35 ppm is detected:
  - Any reading above 9 ppm shall be considered an above normal reading.
  - Occupant(s) shall be informed that an elevated level of CO has been detected.
  - If it is determined that an appliance is malfunctioning and thereby producing CO, an attempt to shut down the appliance will be made and the appropriate utilities company or repair person will be notified by the Incident Commander (IC).
  - Once the premises have been ventilated, use of positive pressure or passive ventilation, and the CO reading is reduced to a safe level; it may be occupied at the discretion of the IC.
  - Inform the occupant(s) that if the detector re-activated or they feel there may be a problem, to call 911.

All members likely to have been exposed to dangerous levels of CO during an incident shall be evaluated by emergency medical personnel before going in-service.