


SOG# 503-4	Standard Operating Guideline		
	<p style="text-align: center;">Cumberland Road Fire Department Inc.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">Natural Gas Response</div>	Approved By	
		Steven Parrish, Fire Chief	
		Effective Date	Revised Date
		4-7-1992	10-1-2022

Scope:

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

Purpose:

To establish the procedures for a Natural Gas emergency response.

Definitions;

Guideline - a general rule, principle, outline of a policy.

Hazardous Materials – (HAZMAT) materials that pose a health hazard, life threat or environmental danger if not mitigated.

Lower Explosive Limit – (LEL) minimum concentration of a particular combustible gas or vapor necessary to support its combustion in air.

Member – any paid and/or volunteer, personnel affiliated with the department.

Natural Gas - Methane and Ethane are in a vapor form and are piped into cities through gas mains.


Relief Valve - valve on a storage tank to release pressure caused by expansion.

Shall - indicates a mandatory requirement.

Upper Explosive Limit – (UEL) highest concentration of a gas or vapor above which a flame will not spread in the presence of an ignition source.

Guidelines:

Cumberland Road Fire Department is an all-hazards emergency response organization. Among the hazardous emergency calls that members may respond to are Natural Gas emergencies. It is important for all operational members of the department to be proficient in responding to and mitigating these emergencies to protect life, stabilize the

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incident and conserve property and the environment.

Personnel Safety:

All personnel working in the vicinity of a known or suspected natural gas leak shall wear full personal protective equipment to include self-contained breathing apparatus.

Personnel operating within the vicinity of the incident shall be limited. A safety perimeter shall be established and maintained surrounding the incident.

Natural Gas Response:

The initial response by Cumberland Road Fire Department for all natural gas incidents is an Engine Company. Upon arrival the Company Officer shall conduct an incident scene size up and establish command. As soon as possible the Incident Commander shall determine whether there is a natural gas incident and the location. Evacuations shall be conducted and a request for Gas utility response, HAZMAT and Regional Response Team as needed.


An Incident Command Post shall be located in a safe location. Any exposures shall be protected, utilizing ground monitors and master streams to minimize exposing personnel to hazards. No offensive actions shall be instigated by Cumberland Road Fire Department members.

Natural Gas Explosions:

Units arriving at structure explosion incidents must consider natural gas as a potential cause and hazard. Structures both served by natural gas and not served by natural gas may explode due to natural gas leaks. Underground leaks may travel through subterranean gaps and fill voids in unserved houses and cause explosions.

Natural gas is lighter than air, possess a “rotten egg” smell and rapidly dissipate in outside spaces. However, when confined within structures or other closed spaces natural gas can pool in dangerous concentrations.

The lower explosive limit for natural gas is 4% with an upper explosive

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limit of 15%. Natural gas is nontoxic, however will displace oxygen and result in possible asphyxiation in confined spaces. Concentration of natural gas within a structure shall be ventilated to mitigate those concentrations. Burning natural gas should not be extinguished because leaking gas poses an explosion hazard. Electrical utilities shall be cut from the outside to avoid arcing that could spark an explosion.

Natural Gas Leak Without Explosion:

Emergency calls for natural gas leaks, or odors of gas or other similar incidents shall be approached as potentially hazardous situations. Charged handlines shall be positioned to protect responders and utility personnel. These incidents shall be managed in accordance with the Hazardous Materials guideline. Cumberland Road Fire Department personnel shall conduct rescue and exposure protection operations and permit the Natural Gas Utility personnel to manage the leak. Residents in the affected area shall be evacuated to safe distance and response personnel shall be limited within the hazard area.

Explosive concentrations of natural gas within a structure shall identified and be ventilated to mitigate the potential for explosion. Structures served by natural gas shall have their supply shut off at the meter, electrical service shall also be shut off at the meter and the Incident Commander shall ensure lock out tag out procedures are followed.

Offensive Actions:

All offensive actions deemed necessary by HAZMAT personnel shall be conducted by HAZMAT Technicians following combustible gas readings being completed. Cumberland Road Fire Department members may be tasked with support assignments to assist HAZMAT or Regional Response Team personnel. Offensive operations shall be supported by charged handlines staffed by Fire Department members wearing full personal protective equipment. Streams of water shall not be directed at the source of escaping gas except as a last resort to protect personnel or an exposure. Burning gas shall never be extinguished, except to protect life or property.