SOG# 503-3	Standard Operating Guideline	
	Cumberland Road Fire Department Inc. Liquid Petroleum Gas Response	Approved By Steven Parrish, Fire Chief Effective Date: 4-7-1992 Revised Date: 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 Liquid Petroleum Gas emergency response.

DEFINITIONS:
Boiling Liquid Expanding Vapor Explosion - (BLEVE) complete LP gas container failure that occurs because of fire impinging upon it.
Flame Impingement - open flame making contact on a LP Gas container.
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.
Heads- rounded ends of a LP gas container, most likely to cause injury in a BLEVE.
Liquified Petroleum Gas – (LP gas) products of petroleum production, Propane, Iso-Butane, Butane, or mixtures of these falls in the LPG family.
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.
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 Liquid Petroleum 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 incident and conserve property and the environment.

SOG# 503-3	Standard Operating Guideline	
	Cumberland Road Fire Department Inc. Liquid Petroleum Gas Response	Approved By Steven Parrish, Fire Chief Effective Date: 4-7-1992 Revised Date: 10-1-2022

Liquid Petroleum Gas Vapor/Liquid Leak Response:

The first due unit from Cumberland Road Fire Department for a Liquid Petroleum Gas incident is an Engine Company. Upon arrival at the incident location the Company Officer shall conduct an incident scene size up and establish command. The following procedures shall be conducted by members of the Engine Company:

- Verify and determine the location of any leaks using the 5-gas meter
- Isolate the area for Liquid Petroleum Gas level readings of Lower Explosive Limit at above 1.6% and below the Upper Explosive Limit of 9.5% to a distance of at least 1500 feet
- Extinguish or remove all potential sources of ignition
- Request Dispatch contact the responsible Gas Company for a response by a representative
- Request a HAZMAT Team from Dispatch for major leaks
- Apply a water fog behind the point of escaping vapor/gas to disrupt and disburse the vapors utilizing an attack line
- Deploy a backup attack line to protect the entry team
- Establish an adequate water supply, either with a hydrant or water shuttle operation
- Continue operations until the LP Gas tank is empty or has been sealed and the area checked with a 5 Gas meter or Combustible Gas Indicator for safe levels of gases
- Defensive fire attack should be utilized if necessary Liquid Petroleum Gas Fire

When a Liquid Petroleum Gas tank is involved in a fire without flame impingement the first arriving Engine Company shall:

- Ensure that the area is evacuated
- Protect exposures from fire encroachment and cool the tank at the point of most radiant heat using an attack line to direct water at the upper part of the tank
- Limit the number of personnel in the immediate area, consider using a ground monitor, stay clear of tank heads
- Do not attempt to extinguish the fire

SOG# 503-3	Standard Operating Guideline	
	Cumberland Road Fire Department Inc. Liquid Petroleum Gas Response	Approved By Steven Parrish, Fire Chief Effective Date: 4-7-1992 Revised Date: 10-1-2022

When a Liquid Petroleum Gas Tank is involved in a fire with direct flame impingement the first arriving Engine Company shall:

- Ensure that the area is evacuated
- Protect exposures from fire encroachment and cool the tank at the point of fire impingement using adequate handlines directing the water at the upper part of the tank and letting the water run down the sides and the heads
- Limit the number of personnel in the immediate area, utilize a ground monitor or master stream as soon as possible, stay clear of the tank heads
- Do not attempt to extinguish the fire

Accidents Involving Liquid Petroleum Gas:

Whenever conducting operations involving a motor vehicle or other accident where there is a victim pinned or there is the need for medical attention or evacuation remember to place protective handlines into operation before any attempts. Any Liquid Petroleum gas or vapor leaks shall be managed in accordance with the leaks portion of this guideline. Liquid Petroleum Gas operated vehicles such as commuter busses, garbage trucks and other service vehicles, and Liquid Petroleum Gas tank trucks involved in accidents that involve fire shall be managed in accordance with the appropriate fire portion of this guideline. However, the following actions shall be taken in addition:

- Overturned or tankers on their side with Liquid Petroleum leaking from the relief valve instead of gas or vapor shall be managed as a liquid hazardous material leak
- Whenever the relief valve is buried into the ground preventing the release of pressure a tank rupture shall be expected. Utilize ground monitors and master streams for defensive operations and keep personnel clear of the immediate area
- Request HAZMAT and the Regional Response Team immediately
- Establish and maintain an adequate water supply (hydrant, water shuttle, etc.)
- Do not cut any cables, hoses, or wires

SOG# 503-3	Standard Operating Guideline	
	Cumberland Road Fire Department Inc. Liquid Petroleum Gas Response	Approved By Steven Parrish, Fire Chief Effective Date: 4-7-1992 Revised Date: 10-1-2022

References:

NFPA 326

Liquid Petroleum Gas (NIOSH)

Firefighting hazards during propane tank fires (NIOSH