

Egg Harbor Fire Department and First Responders Standard Operating Guidelines

SUBJECT: LIQUEFIED PETROLEUM (LP) GAS EMERGENCIES

SOG 801

PURPOSE: To have in place a policy for all personnel to follow when responding to LPG emergencies.

SCOPE: This procedure applies to all members of the Egg Harbor Fire Department.

Definitions: **LPG** – Liquid Petroleum Gas

BLEVE – Boiling Liquid Expanding Vapor Explosion

LEL – Lower Explosive Limits

1. PROPERTIES OF LPG

A. LPG is almost 1 ½ times heavier than air and it generally seeks the lowest point possible.

B. LPG is not toxic. However, a large concentration of LPG displaces the air in enclosed spaces, and suffocation can occur because of lack of oxygen.

C. LPG is explosive in concentrations between 1.5 to 10 %. The flash point of LPG is 100 degrees Fahrenheit. Typical ignition sources are pilot lights, lighted matches, and electrical areas in switches and motors.

D. LPG has no natural odor of its own but a distinctive odor is added and you should become familiar with it.

2. LPG STORAGE

A. LPG is stored in containers in a liquid state under pressure.

B. LPG is shipped from suppliers to its point of usage in cylinders and in tanks on cargo trucks.

C. The gas is stored in tanks and cylinders near its point of usage. The tanks, or cylinders, are connected by underground piping or copper tubing to the appliance the gas serves.

D. The tanks or cylinders that store the gas have shut off valve located on them. If the valve is inoperable the line leading to the appliance served can be pinched off.

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E. Storage tanks may BLEVE with flame impingement on the vapor space of the container in a time range of 8 to 30 minutes.

3. RECOMMENDED STEPS TO BE TAKEN IN CASE OF AN EMERGENCY

A. Gas is escaping indoors but is not burning.

1. Park all emergency vehicles up wind from the leak.
2. Notify the gas supplier for assistance.
3. Evacuate occupants; keep them a safe distance from the building until the area is safe.
4. Shut off the gas valve.
5. Check gas levels with a meter at the entry point.
 - a. Determine explosive range. LEL (Lower Explosive Limits)
 - b. No entry shall be made unless LEL is below 10% on the meter.
6. Ventilate by opening windows.
 - a. Use a positive pressure fan if necessary.
 - b. Start the fan away from building.
7. Locate the source of the leak.

B. Gas is escaping outdoors but is not burning.

1. Park all emergency vehicles up wind from the leak.
2. Notify gas supplier for assistance.
3. Turn off the gas valve on the tank if possible to do so safely.
4. Clear the area of people for a safe distance giving consideration to the down wind direction.
5. Prevent ignition of the escaping gas by keeping all sources of ignition at a safe distance.
6. Check nearby buildings for the presence of gas.
7. Identify the source of the leak.

C. Gas is escaping and burning indoors.

1. Notify gas supplier for assistance.
2. Evacuate occupants.
3. Shut off gas if possible.
4. Do fire attack if possible.

D. Gas is escaping and burning outdoors.

1. Notify gas supplier for assistance.
2. Clear the area of people for a safe distance.
3. Check nearby buildings for the presence of escaping gas.
4. Fight the fire from the maximum distance possible, preferably with unmanned lines.
5. Cool the container by flooding it with large quantities of water until well after the fire is out. Do not direct water at the source of the leak, or at safety devices, as icing may occur.
6. Leave the area immediately if you hear a rising sound from venting safety devices or see discoloration of the tank. This may be a sign that a BLEVE may occur. Remember that if a BLEVE should occur pieces of the tank can fly in all directions.
7. Do not extinguish fire until gas can be turned off.