



**ARCADIA FIRE DEPARTMENT
STANDARD OPERATING GUIDELINE**

NATURAL GAS EMERGENCIES

Number: 128
Revision Date: 08/04/2012
File Name: Natural Gas

Review Date: 03/25/2017

Approved: _____
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PURPOSE

The purpose of this document is to establish guidelines to assist first responders in the control and handling of Natural Gas Emergencies. Fire department units may encounter natural gas in a variety of situations and incident types, each presenting a different set of hazards and problems. The following guidelines present an approach, which will be applicable in the majority of situations, but do not replace good judgment and experience in dealing with any particular incident.

Natural gas is much lighter than air and will usually dissipate rapidly in the outside environment. Inside buildings, however, it tends to pocket, particularly in attics and dead air spaces. The flammable limits are approximately 4% to 15% in air. Natural gas itself is nontoxic; however it displaces oxygen and can result in asphyxiation if in a confined space.

PROCEDURE

A. Natural Gas Leak – Outside

1. First arriving apparatus shall spot engine in safe area, up-wind, and up-hill.
2. Evacuate civilians from immediate area if needed.
3. Remove sources of ignition from immediate area including fire apparatus.
4. Try to locate area of leak using a gas-monitoring device. If leak is at or past the gas meter, attempt to control leak at the shut off valve.
5. Contact Verdugo and ask for a Gas Company representative to respond to incident location. Give a brief description of the incident
6. If leak is from a natural gas main running underground do not attempt to shut gas off, the gas company will determine best method of control.
7. If the leak involves a fire, **do not attempt to extinguish**, let the product burn and protect exposures until gas can be shut off at the valve or at a remote location by the Gas Company.

B. Safety: Natural Gas Leak – Outside

1. All personnel shall have on full protective equipment with SCBA according to Department Guideline # 101, Personal Protective Equipment.
2. Utilize protection line with Firefighter breathing air when Gas Company is attempting to control leak.
3. Utilize APD for traffic control to assure a safe working environment for personnel.

C. Natural Gas Leak – Inside a Structure

1. Spot apparatus away and up-wind/up-hill from structure or building.
2. Consider evacuation of the structure and other exposures.
3. Use atmospheric monitoring device to determine if there is a gas leak, start from the outside working your way into the structure checking voids and high areas, as natural gas is lighter than air.
4. Use atmospheric monitor to assure that oxygen levels are within normal limits.
5. If determined that a gas leak has occurred attempt to shut gas off at appliance supply valve or meter.
6. Do not operate electrical switches in structure.
7. Shut off utilities using outside panel if certain the panel is clear of natural gas.
8. Ventilate structure from outside. **Be aware that ventilation may lower the concentration of natural gas into its flammable range.**
9. Restoration of gas services should be done by Gas Company personnel only.
10. If gas leak involves fire, protect exposures and confine fire to area of origin until gas can be shut off. Once gas is shut down approach as a structure fire.

D. Safety: Natural Gas Leak – Inside a Structure

1. All personnel shall have on full protective equipment with SCBA according to Department Guideline # 101, Personal Protective Equipment.
2. Call for APD if needed for traffic control to assure a safe working environment for personnel.
3. Monitor air in structure, Natural Gas itself is nontoxic; however it displaces oxygen and can result in asphyxiation.