

<b>FREWSBURG FIRE DISTRICT</b>  <b>OPERATIONAL POLICY</b>	Section <b>7</b>	EMERGENCY OPERATIONS	
	SUBJECT	NATURAL GAS/ PROPANE EMERGENCIES	
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## I. SCOPE

This policy applies to all Frewsburg Fire District members operating at emergency scenes involving natural gas or propane.

## II. PURPOSE

This plan is intended to serve as an operational guide when natural gas or propane emergencies are encountered.

## III. NATURAL GAS

1. Frewsburg Fire District personnel may encounter natural gas in a variety of situations. Each will present a different set of problems and hazards.
2. The following guidelines will be applicable in the majority of situations, but do not replace good judgment and experience in dealing with any particular incident.
  - a. 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 space.
  - b. The flammable limits are approximately 5% to 15% in the air.
  - c. Natural gas itself is non-toxic; however, it displaces oxygen and can result in asphyxiation if in a confined space.
  - d. Flammable gas ranges can only be determined by a combustible gas instrument (CGI).
    - i. Note: If the leak is in a confined space and has displaced the oxygen, the CGI will not give an accurate reading until the oxygen is in a normal range.
  - e. Burning natural gas should not normally be extinguished, since this would change the situation from a visible to invisible hazard with explosive potential. Fires should be controlled by stopping the flow.
  - f. Approach to the incident should be from upwind. Use wind speed/direction from dispatch and observe any on-scene indicators (trees, flags and any other items that may show direction).

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#### IV. PROPANE EMERGENCIES

1. Propane emergencies will be handled similar to natural gas emergencies.
2. The big difference with propane is that it is heavier than air (approximately 1-1/2 times), so propane will not rise, but will remain low.
  - a. Since it will remain low, it will travel to potential ignition sources.
3. The flammable limits for propane are approximately 2.5% to 9.5%.
4. Propane and natural gas have a similar odorant added to them and it is difficult to tell the difference by the smell.
  - a. It is critical that the gas be identified for tactical considerations.
5. Propane can be dispersed with hose streams, if necessary, to prevent it from traveling toward an ignition source.

#### V. INCIDENTS WHERE AN EXPLOSION HAS OCCURRED

1. Units arriving at a scene of a structural explosion must consider natural gas as a possible cause.
2. Underground leaks may permit gas to travel considerable distances before entering a structure through the foundation, around pipes or through void spaces.
  - a. In these circumstances, the cause of the explosion may be difficult to determine.
3. Until it can be determined that the area is safe from the danger of further explosions, evacuate all civilians and keep the number of FFD personnel in the area to the minimum number necessary to stabilize the situation.
4. Do not rely on gas odor. Use a CGI to check all suspected areas. Check areas systematically using a CGI.
  - a. Start outside of the area of the explosion and move into the area until readings indicate a detectable concentration.
  - b. Map the readings for the affected area and relay it to Command.
  - c. If the gas concentration is encountered inside, adjacent to, or underneath any building, secure all possible sources of ignition in the affected area.
5. Cut electricity from outside the affected area to avoid arcing.
6. Ventilate buildings where gas is found with explosion-proof blowers only.

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7. Never enter inside when CGI is alarming for LEL. Ventilate first and wait for Hazmat.
8. Command shall provide for effective interaction between gas company personnel and the fire department.
9. Command must ensure the safety and stability of the structure.

## **VI. INCIDENT INVOLVING A GAS LEAK WITH NO FIRE OR EXPLOSION**

1. Calls for “gas leak”, gas odor”, “broken gas line” and similar situations may range from minor to a potentially major incident.
  - a. All these should be approached as potentially dangerous situations.
2. The first arriving unit with a CGI shall obtain a sufficient number of gas concentration readings for Command to evaluate the hazard and take appropriate action. (With these readings, a proper isolation perimeter can be established.)
3. In all cases, FFD units shall take whatever actions are necessary to provide for life safety and property conservation.
4. Provide standby protection with a charged 1-3/4-inch hand line (fog nozzle) and a dry chemical extinguisher.
5. Crews shall be in full protective equipment and SCBA. Crews should position themselves upwind.
6. Evacuate any civilians in area of escaping gas.
7. Attempt to locate the source of the gas and any shutoff devices available to isolate and control the leak, i.e., water heater, stove, dryer, etc.
8. In gas leak situations within a building, where the source of the leak is unknown or uncontrolled, the gas supply shall be shut off at the meter.
9. Command shall ensure the meter is locked off until repairs are complete.
10. If there are any indications of gas accumulating within a building, evacuate civilians from the structure and control ignition sources.
11. Check the areas with a CGI. If the gas leak is outside, the gas will normally rise and dissipate rapidly depending on the size of the leak. This can be confirmed with a CGI and perimeters can be established.

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## VII. PERSONNEL SAFETY

1. All personnel working in the vicinity of a known or suspected gas leak shall wear full protective clothing with SCBA (this includes gas company personnel).
2. Personnel working in a suspected ignitable atmosphere shall be backed up by a staffed protective hand line.
3. The number of exposed personnel will be kept to an absolute minimum.