Purpose: Establish standard response and course of action for reported natural gas and propane (LPG) releases within a structure.

Natural Gas

- Natural gas in its *natural state* is colorless, tasteless, and odorless.
    - Mercaptan is added to give natural gas a unique odor (rotten eggs)
- Natural gas is composed of approximately 85-95 percent methane gas.
- Natural gas is non-toxic, but it may displace oxygen and can result in asphyxiation in confined spaces.
- Natural gas has a specific gravity of 0.6
    - When contained:
        - Natural gas will rise to the upper levels of a structure
    - When not contained:
        - Natural gas will dissipate into the environment
- Natural Gas has an LEL of 5%.
- Natural Gas has an UEL of 15%.

Propane (LPG)

- Propane is a three-carbon alkane gas.
- Propane is a by-product of natural gas.
- Propane has a specific gravity of 1.50
    - When contained:
        - Propane will pool in lower areas of the structure
    - When not contained:
        - Propane will tend to travel slowly, low to the ground following wind direction and geographic topography.
- Propane has an LEL of 2.1%.
- Propane has an UEL of 10%.

Policy: All reports of gas and LPG releases within a structure shall receive a "first alarm assignment" per **SOG #3651** ***Response to Incidents***.

Procedure:

- When possible approach scene from upwind/uphill direction.
- Personnel shall don full PPE including SCBA for all reported exterior gas line or LPG releases within a structure.
- Position apparatus out of danger.
    - Avoid:
        - Front of Building
        - Over or Adjacent to Manhole Covers
        - Within Collapse Zone
- Evacuate the structure.
- Conduct a rapid primary search if evacuation **CANNOT** be confirmed.
- Investigate the source of the release utilizing gas detection equipment (4-Gas METER).
- If possible - isolate the leak to the appliance involved:
    - Examples:
        - Natural Gas Range leaking from supply line. If there is an in-line shut-off on supply line, secure gas at that location.
        - Natural Gas leak within the structure (unknown origin). Secure gas at shut-off on exterior of structure.
- Notify National Grid Gas and/or propane provider (if LPG release).
- If deemed appropriate, ventilate the structure via natural means
    - Ventilate from the leeward (downwind) side of the structure
        - Avoid inadvertently pressurizing the structure by infusing an influx of fresh air.
- Maintain a perimeter around the affected structure:
    - Recommended 330 feet from all sides of the structure
    - If not possible, utilize shielding and apparatus placement to protect command post and companies operating on-scene.

Precautions:

- DO NOT operate any electrical equipment
  - Including:
    - Activating light switches
      - ***If you found it on, leave it on…***
- Use only intrinsically safe lights / devices.
- Utilize spark resistant tool to shut-off gas at supply.
- Continue to monitor atmospheric conditions.

Special Considerations:

- Natural gas can migrate underground along sewer lines, utility trenches, and other sub-surface corridors or spaces. In congested areas - companies should investigate the potential of gas release beyond the building of origin.

Post Incident Considerations (Confirmed Release):

- Natural Gas - Turn scene over to National Grid Gas following proper ventilation and source secured
- LPG - Advise occupants to have licensed professional repair/replace/service the source of the release prior to restoring service.
- North Kingstown Fire Department personnel shall not restore natural gas and/or LPG service (i.e. turn gas valve back-on) unless directed to by the Shift Commander or his/her designee.