

BLACKWOOD FIRE COMPANY OPERATING GUIDELINE

1.22 INCIDENT RESPONSE – NATURAL GAS EMERGENCIES

- 1.22.1 Responses to natural gas releases will normally be handled at emergency speed.
- The Company Officer maintains the authority to adjust the rate of response IAW OG 1.3.
- 1.22.2 Responding personnel shall wear full PPE IAW OG 7.1
- 1.22.3 SCBA shall be used IAW OG 7.2, Section 2. Any personnel operating in an explosive atmosphere or in close proximity to a natural gas leak should be breathing air to protect their respiratory system in the event of fire or explosion. High concentrations of natural gas can also result in an oxygen deficient atmosphere.
- 1.22.4 Responding apparatus should position upwind of the reported leak location. Avoid parking over manholes and/or sewer inlets if responding to underground leaks.
- 1.22.5 For confirmed leaks, the response of a gas company representative should immediately be requested.
- NOTE: Gas company representatives should be treated as subject matter experts. However, the FD OIC maintains responsibility for ensuring the scene is safe and the hazard has been mitigated prior to departure.
- 1.22.6 Upon arrival, the apparatus officer should attempt to interview available witnesses to determine the nature and scope of the leak. This should be done prior to committing personnel to the hazard zone.
- 1.22.7 Portable gas monitors (i.e. Industrial Scientific meters) should be deployed as soon as possible to determine if explosive concentrations of gas are present. As natural gas is lighter than air, special attention should be given to the highest points of the structure.

1.22.8 It may be necessary for FD personnel to close valve(s) to stop a leak. Once supply valves are secured by FD personnel, they are only to be turned on by a qualified gas company representative. FD personnel should not operate street valves or large scale distribution valves without gas company authorization. See attachment 1.22 for information regarding potentially defective gas meter shut off valves.

1.22.9 Outside Leaks:

Note: As natural gas is lighter than air, most outside leaks will dissipate in air and not present a serious hazard beyond the immediate area of the leak. However, the released gas may migrate underground and accumulate in a structure, presenting the hazards identified under section 1.22.10.

- Meter the area to identify the hazard zone
- Ensure emergency vehicles and personnel are positioned a safe distance from the leak.
- Evacuate if necessary
- Utilize police to reroute traffic and deny entry
- If necessary for FD personnel to enter the hazard zone for evacuation, leak mitigation or other emergency actions, the following precautions should be taken:
 - Personnel in full PPE, equipped with and breathing air from an SCBA.
 - Protected by a charged 1 3/4" or larger hose line.
- Eliminate any potential ignition sources.
- Secure a water supply and be prepared for ignition
- Meter nearby structures for concentrations of gas
 - If positive readings are found, refer to Inside Leak procedures
 - Note that gas can migrate a considerable distance from the leak if prevented from escaping to the atmosphere (sidewalks, roadways, frozen ground, etc.)
- If necessary, utilize wide angle fog streams to direct gas away from structures or other ignition points.
- Consult with the gas company representative to determine the anticipated duration of the incident and the resources necessary

1.22.10 Inside Leaks:

- Utilize the portable gas monitor at the point of entry
- If safe to enter, meter the entire structure
 - Be sure to meter the upper levels, as natural gas is lighter than air and will rise to the top.
- If readings of 10% of LEL or above are detected at any point, the following actions should be taken:
 - Immediately evacuate the structure
 - Ensure sufficient apparatus and personnel are present to initiate structural firefighting operations in the event the gas ignites.
 - Call additional resources if needed.
 - Secure the gas at the meter, if possible
 - See attachment 1.22 for special instructions regarding potentially defective shut off valves.
 - Eliminate potential ignition sources.
 - Avoid operating switches inside the explosive atmosphere, as the switch could arc and ignite the gas.
 - Ventilate the structure
 - Use extreme caution when ventilating an area with a high concentration of gas, as ventilation activities may cause a temporary explosive atmosphere as the gas concentration passes through the explosive range (from above the UEL of 15% to below the LEL of 5%).
- If readings below 10% LEL are detected, members should continue the investigation and attempt to determine the source of the leak.
 - Utilize the gas leak detector to assist in pinpointing the location of the leak.
 - If the leak is located in the area of an appliance (stove, dryer, hot water heater, etc.), attempt to isolate the leak at the appliance valve.
 - Allows continued use of other natural gas fueled appliances.
 - Most importantly, use of the heater during winter months.
 - Danger tag(s) should be utilized IAW OG 8.4 when appropriate.

1.22.11 Natural gas fueled fires:

- As a general rule, these type of fires should be extinguished only by eliminating the source of the gas
- Evacuate the area
- Establish a water supply
- Utilize water stream(s) as necessary to cool and protect exposures
 - Use caution to avoid directing the stream at the seat of the fire, which could result in unintended extinguishment of the fire
- Coordinate with gas company representatives to determine the quickest and safest method to secure the gas.

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ATTACHMENT 1.22

- Any member who encounters one of the below described valves should immediately notify the Incident Commander.
- The Incident Commander will be responsible for deciding whether to authorize the member to turn off the valve, or to await the arrival of a gas company representative.

SAFETY ALERT **for FD in the SJ Gas service Area**

South Jersey Gas has embarked on a replacement of defective gas valves throughout their system. They estimate about 70,000 customers have the defective valve and it will take some time to replace them. The valve is located before the regulator and the meter set. If the defective valve is closed, it could fail launching the valve core from the housing. It is recommended you **DO NOT** work the valve and wait for SJ Gas to arrive.

Defective Valve



To identify a defective valve;
The fronts of the valves look similar.



The defective valve has a flat backside;



The good valve has a nut on the back of the valve.