	Jefferson County Fire and EMS **Predetermined Response for Gas Leaks**	**JC OG: 019** **Date: 04/2025** **Revised:**

Purpose:
Jefferson County Fire and Rescue Companies respond to a wide range of emergency incidents. This procedure identifies the operational guideline that can be employed in establishing predetermined response for all units dispatched to a ***Gas Leak (inside or an outside).*** This OG will also cover best practices for Atmospheric Monitoring Devices (AMDs) or "4 gas meters". This provides for the effective management of personnel and resources, providing for safety and welfare of personnel. This guideline establishes responsibilities of responding companies in a hydrant or non-hydrant area.

A "Gas Leak Inside" and "Gas Leak Outside (Major)" to a hydrant area will consist of the following units:

-Two (2) Engine Companies
-One (1) Truck Company
-One (1) EMS Transport Company
-Lieutenant 11 (EMS 11)

Any of the above dispatches in a non-hydrated area will result in One (1) Tanker being dispatched.

Predetermined Response Assignments:

First Arriving Engine Company:

- Position no less than ***100 feet*** from the dispatched incident address/location (unless obvious hazards or supplemental information suggest the need to stage further away).
- Do not park in front of the affected address, attempt to position at the corners if possible if you have to position closer. Apparatus should position prior to and upwind of the hazard area. Units **will not** be positioned directly in front of, to the rear of, or beside a building involved in a gas emergency.
- All other dispatched units will position at least 300 feet from the incident unless directed by the first in Officer in Charge or Incident Commander if set up already.
- Units should avoid parking apparatus and POV vehicles over sewers, valve covers and manhole covers because the collection of gases in these locations could present a potential hazard.
- Townhouses/commercial occupancies may require additional distance depending on the layout of the building.
- Officers should consider leaving the driver with the apparatus (if possible and staffing levels allow) for repositioning or hose line deployment if needed.
- All personnel actively involved in the gas leak emergency or investigation of will don full structural PPE, to include SCBA, until the leak is secured and/or the incident is confirmed as a non-IDLH.
- The first arriving officer will identify a water supply (not within 300 feet of the address)
- Give an on-scene report (size-up)
- Complete a 360 degree walk around to see all four sides of the structure to include a side "C" report. During this walk around the following should be reported:
    1. Location of the gas meter.
    2. Location of the tank.
    3. Above ground of below ground tank.

4. Approximate size of tank.

- The 360 degree walk around should be done with a 4 gas meter to check for the following:
    1. Unusual movement on the gas meter operating for the residence, i.e. rapidly spinning.
    2. The percentage of the product inside the tank.
    3. Any exterior utility vents.
    4. Hissing sounds, odor, blowing dirt, or other obvious signs of a leak.
- If possible, ask the homeowner/occupants about the situation, what type of gas and company that serves the residence. Ask if any gas appliances have been worked on recently.
- Ensure all occupants are out of the home and are sent at least 300 feet away from the incident after the interview for information.
- If elevated readings of **LEL or H2S** are found on the exterior during the 360, personnel should evaluate the need for shutting off the gas service at the meter and or tank on the exterior.
- Low level alarm on the exterior of the residence prior to entering the home could indicate a higher level on the inside.
- Before making entry into the structure the OIC will announce the following over the radio to either ECC or the responding Command Officer if available:
    1. Readings on the meter at the entry door
    2. Occupant Status
    3. Mode of Operation

- Personnel will report any changes to either ECC or the responding Command Officer such as action levels on the meter, any alarms on the meter, fluctuating readings, changing conditions or discovered victims.
- When communicating 4 gas readings via the radio, personnel shall announce all four (4) readings individually. For example:

  "**Jefferson or Duty 4 (whomever you're going to communicate with) from Engine 2, we are at the front door and the meter readings are as follows: Zero parts per million H2S, zero percent LEL, zero parts per million CO, and 20.9 percent Oxygen."**

NOTE: If no other officers or units are on the scene, the first arriving Engine Company Officer needs to establish Command until it is transferred to another officer or Chief upon their arrival.

Second Arriving Engine Company:

- Stage at least 300 feet away
- Prepare to complete a water supply if needed
- Personnel should be in full PPE and SCBA
- Await instructions from first arriving officer
- If the first arriving officer gives the OK and no hazards are found, the rest of the assignment (2^{nd} engine and Truck can come down to help with further investigation.

First Arriving Truck Company:

- Stage at least 300 feet away with 2^{nd} Engine
- Full PPE and SCBA for personnel
- Await instruction from first arriving OIC
- If all clear is given, Truck can proceed down to 1^{st} Engine and help with investigation and perform ventilation if needed.

EMS Units:

- Stage with 2^{nd} engine and 1^{st} truck 300 feet away
- Prepare to treat patients if any found

Lieutenant 11

- Stage 300 feet away with rest of apparatus. Be available to assist Ambulance or Command.

Action Levels

Oxygen—O2

- **19.5% or less** is oxygen deficient
  - Don SCBA
  - Ventilate
- **23.5% or greater** is oxygen-enriched
  Don SCBA

Hydrogen Sulfide—H2S

- **Alarms at 10ppm**
  - Normally considered as sewer gas
  - Common chemical suicide gas
    Ventilate

Carbon Monoxide—CO

- **0-10 PPM**
  - Investigate the area in full PPE.
  - Monitor readings.
  - Isolate source and ventilate.
- **10-34 PPM**
  - Investigate the area in full PPE.
  - Isolate source and ventilate.
  - Exit with any patients.
  - Initiate civilian evacuation.
- **≥ 35 PPM (**Alarms at 35 ppm**)**
  - Continue to investigate utilizing Full PPE & SCBA.
    Initiate civilian evacuation. Isolate source and ventilate.

Lower Explosive Limit—LEL

- **0–10%:** Investigate the area in full PPE.
- **10–25%:** Continue to investigate utilizing SCBA.
- **25% or greater:** Evacuate, secure utility from the structure's exterior, and perform exterior natural ventilation.
  "**OR**" Over-range: for any sensor in over-range, indicates the measured gas concentration is greater than The measurement range of the sensor and ***you need to immediately exit the area/structure.***

X

Chairman of the Fire and Rescue Association

Approved Date:

Implementation Date: