

## First responder utility safety bulletin

Summer 2023



### Responding to major natural gas incidents

Major natural gas incidents are unique emergency events that require a vastly different response than that of minor gas incidents. A substantial release of gas or over-pressurization of the distribution system has the potential to produce widespread consequences. These incidents, although rare, can be the most challenging that you will encounter as a first responder. Read on to learn key planning factors and response considerations.



#### Situational awareness

Situational awareness allows responders to predict the progression of an incident and the operational challenges that are likely to develop. In the high-stakes environment of a large-scale natural gas event, the incident commander (IC) will rely on the command team for high-level knowledge of current conditions. On scene, situational awareness is essential for all responding personnel, as the expanding situation can easily endanger first responders as well as the public.



#### Plume migration

An unconfined large-scale gas leak will create a plume that rises in air before it disperses into the surrounding atmosphere. Identifying the path of the gas plume and removing ignition sources are essential to keeping your team and the public safe.

Weather conditions, including wind, temperature and humidity, may influence the path of a gas plume. Environmental conditions such as dense tree canopy or obstructing buildings can strengthen the plume and keep it from dispersing rapidly. If the migrating plume encounters a spark, the resulting fire may ignite the source of the leak as well.



**Use combustible gas indicators (CGIs)** to monitor the presence, concentration and migration of natural gas in the plume and **evacuate the area** accordingly using the guidance of DOT Emergency Response Guide 115. **Eliminate ignition sources:**

- Park away from the path of the plume.
- Shut off all vehicles and emergency lights.
- Use intrinsically safe equipment.
- Prevent the use of any electrical devices.

#### Explosion response and evacuation precautions

Key success factors for gas explosion responses include large-scale resource deployment, interagency coordination, timely notification and evacuation, appropriate distribution of information to the community and long-term operation preparation. When responding to the report of a natural gas explosion, immediately notify and request the response of National Grid through your dispatcher, and take the following precautions.

##### On arrival:

1. **Approach the incident scene cautiously.** Park a safe distance from the collapse zone (at least 100 feet from involved structures) and away from manhole covers, gas valve covers and storm sewer grates.
2. **Establish a unified command post (with National Grid and key responding agencies) and a staging area** to ensure the proper deployment of resources.
3. **Create an exclusion zone that isolates the leak area for at least 330 feet in all directions.** Secure the area with caution tape and reroute traffic as needed.
4. **Initiate the evacuation of the area.** Work with police to clear the area as soon as possible after an explosion has occurred. Evacuate 100 to 800 meters (or 330 feet to ½ mile), per the DOT Emergency Response Guide. The incident commander will make the final determination of the extent of the evacuation.
5. **Triage and treat the injured.**
6. **Establish a water supply and extend handlines** with a fog nozzle to limit fire spread and provide operational flexibility. **Do not extinguish gas-fed fires, as this will allow gas to accumulate and reignite.**
7. **Establish a rapid intervention team (RIT)** for first responder safety.

##### During operation preparation:

1. **Establish hot, warm and cold zones.**
2. **Request additional resources,** and consider the use of multiple mutual aid units, strike teams or task forces appropriate for the situation.
3. **If possible, verify evacuation of occupants through a secondary search.**
4. **Initiate monitoring** of the area with multiple CGIs.

##### For preparation of the long-term nature of this event:

1. **Establish an incident rehabilitation area,** and create a crew rotation.
2. **Create a formal written incident action plan (IAP).** This document should be the basis of interagency coordination and shared with all responders on scene.
3. **Be aware that unburned gas may continue to accumulate in confined areas** and present a secondary explosion hazard. Exercise extreme caution when approaching and entering the hot zone.
4. **Control utilities.** In extreme or prolonged situations, the power should be turned off to the structures or areas involved.
5. **Expect a long duration incident** that includes multiple operational periods and the need for a formal IAP.
6. **Conduct an operational review and safety briefing** in conjunction with National Grid at the start of each operational period.

Throughout the response, National Grid can provide important guidance to the IC and, if needed, work as part of the command team.

**Keep yourself, your team and the public safe this summer. Visit [firstresponder.ngridsafety.com](https://firstresponder.ngridsafety.com) today to register and complete your utility safety training.**

To report emergencies, call **911** and National Grid immediately.



Know what's below.  
811 before you dig.

In case of gas emergencies:

Long Island and the Rockaways:  
**911 and 1-800-490-0045**  
Metro New York:  
**911 and 1-718-643-4050**  
Upstate New York:  
**911 and 1-800-892-2345**  
Massachusetts:  
**911 and 1-800-233-5325**

In case of electric emergencies:

Upstate New York:  
**911 and 1-800-867-5222**  
Massachusetts:  
**911 and 1-800-465-1212**

**IMPORTANT TERMS AND CONDITIONS – PLEASE READ PRIOR TO USE.**