

What You Need to Know About Oil and Gas Pipeline Leaks



Although most members of the public do not distinguish between the various types of oil and gas pipelines, there are important differences. Depending on the pipeline type, the consequences of a leak can range from locally contaminated soil that needs to be cleaned up at one end of the scale, to dozens of homes on fire and scores of casualties on the other. The table below describes three major classes of oil and gas pipelines and what can happen if they leak.



Leak Behavior of Oil and Gas Pipelines

	Liquid petroleum products	Natural gas	Highly volatile liquids (HVLs)
What materials are involved?	Gasoline, diesel, jet fuel, heating oil	Methane, sometimes with ethane added	Ethane, propane, butane
Behavior of leaking material	Remains liquid unless sprayed into the air.	Rises rapidly and disperses.	Forms heavier-than-air, low-lying flammable vapor cloud.
How is a leak detected?	Smell, visible liquid, contaminants in local groundwater. Large leaks may be detected by pipeline equipment.	"Rotten egg" smell, possible hissing sound. Large leaks may be detected by pipeline equipment.	Visible mist of water vapor (depending on humidity), possible localized loss of vegetation, possible hissing noise. No smell. Large leaks may be detected by pipeline equipment.
What are the dangers?	Ground and groundwater contamination. In case of aerial spray: possible explosion.	Local explosion and ongoing jet fire until pipeline segment is empty.	Ground-hugging flammable cloud possibly a mile or more in length in the case of a large pipeline. Many fatalities and structures on fire if cloud is ignited; ongoing jet fire until pipeline segment is empty.
How large is the affected area?	Very local, unless leak continues for a long time.	Very local (a few hundred feet)	Depending on terrain, weather, size of pipeline, pressure, and size of leak, can cause damage and injury over a mile away.
What should you do in case of a leak?	Contact local authorities and the DEP. Avoid open flames.	Leave the immediate area and notify authorities. Do not do anything that could create a spark.	Leave the area on foot to a distance of at least a half mile and then notify authorities. Do not use motor vehicles. Do not do anything that could create a spark.