

Pipeline Information from Westtown's Emergency Management Coordinator

By now, pretty much everyone in Westtown is aware that there are several pipelines crossing under Westtown Township, and there is the potential for more to come. We thought you might like some information about pipelines, what and where they are, the risks they present, and how you can be prepared if something goes wrong.

What's a pipeline?

It's an underground pipe, located from 3 to 150 feet underground, running along clearly identified rights-of-way. Markers identify places where they cross under larger roads. They occasionally come above ground at fenced-in pumping stations, where pumps help push the products along, and valve/inspection stations. There is one of these along 926 between the Concept School and Pete's, on the Thornbury side of the road, if you want to see one.

What do pipelines do?

They carry liquid and gaseous products, usually petroleum products. The materials they carry range from natural gas (a mixture of primarily methane and ethane) all the way to crude oil. Occasionally they also carry non-petroleum materials, like hydrogen or nitrogen. The materials are always under some pressure to make the products move and in some cases, to keep the materials liquid instead of gas. These last types are the high-pressure lines, up to perhaps 1,500 pounds per square inch. Pipelines are obviously rigid in where they go, but flexible in what they can carry. Some liquid petroleum product lines might carry several different products in the same day, one right after the other. The operators know how to keep the products separate, and where the interfaces are at all times.

Where are they in Westtown?

Attached is a map showing the location of all the lines in place or proposed at this time for Westtown. The mapping is from the Chester County Pipeline Information Center Interactive Map. It is color coded and illustrates pipeline corridors with consultation zones at a distance of 1,000 feet on each side of the approximate pipeline centerline.

What can go wrong?

First off, pipelines do not explode. They can leak, and in the worst case, fail. To explode they would need the three things you learned in school, fuel, air and an ignition source. Inside a pipeline, there is plenty of fuel, but no air and no ignition source. What can happen is that corrosion from either the inside or the outside can weaken the steel wall of the pipe, allowing a leak to begin, or weakening it enough that a piece could blow out, releasing the contents. The number one reason for leaks and failures is human error, someone digging or drilling around a pipeline without knowing it's there.

How are they inspected?

The pipeline operators have several tools for inspecting pipelines, from both the outside and inside. The outside inspection is done by air and on foot. Every pipeline route gets a routine fly-over by plane or helicopter, with a trained observer watching the route for telltale signs of a leak. Once a year, at least, a person actually walks the route of the pipeline, looking for leak signs, evidence of disturbance near the line, or things in the right-of-way that could do harm to the line. At road crossings, many lines run through a sleeve to provide additional protection. The sleeve is vented, giving the inspector a chance to check for leakage.

How are they monitored?

Pipelines are monitored 24/7 by a system of sensors that tell the operator if things start to go wrong. These sensors monitor flow rate and pressure, and are sensitive to small changes in either. These sensor readings set off alarms when a potential leak is detected so the operators and may begin an automatic shutdown of the line. Valves in the line are closed once the pumps are shut done, isolating the segment that may have the problem. This means that if there is a leak, no more than the amount of product between the valves can leak out in the worst case. These operators also have 24/7 phone numbers that are in place for anyone to call and report a suspected leak. These numbers are attached for the operators of pipelines in Westtown.

So what happens if there is a leak?

It depends on the product, pressure on the line and size of the leak. If it's a

- Liquid product, low pressure, small leak – the monitoring system will probably find it. If not, the evidence of leakage will show up eventually (petroleum smell, wet spot, dying vegetation above the leak)
- Liquid product, large leak – The monitoring system will find it. product will be visible on the ground, strong smell of petroleum
- Gaseous product, low pressure, small leak - the monitoring system will probably find it. If not, the evidence of leakage will show up eventually (petroleum smell, dying vegetation above the leak)
- Gaseous product, high pressure – very obvious. The monitoring system will find it. There will be a hissing or roaring noise, there will be a hole in the ground above the pipe, dirt and rocks being ejected, and a visible plume of hydrocarbon or condensation.

Any of these are dangerous, some a lot more than others. They should be reported immediately! If there is no ignition source, they will just keep leaking, and eventually liquid products will find their way to the nearest stream. Gaseous products will either rise up into the atmosphere (natural gas) or spread out along the ground, pushed by the wind and trying to go downhill. This is the leak of greatest concern, as the vapors can travel to a source of ignition some distance away.

If I think there is a leak, what do I do?

Immediately call 9-1-1. Report the location of the suspected leak and what you see to the operator. They will contact the pipeline operator, the local fire department, Chester County Haz-Mat, and the Department of Emergency Services.

Do not approach the leak. Move away at least 100 yards and do your best to keep others the same distance. When the fire department arrives, point them to the suspected leak.

How will I be notified?

Once authorities are on-scene, and in communication with the pipeline operator, a determination will be made on the best protective action for the residents in the vicinity of the leak. This determination will be based on:

- Product in the pipeline
- Pressure of the line
- An estimate of the size of the leak
- Closeness of residences to the leak site
- Wind strength and direction
- Terrain

Residents will be notified through one or more of the following methods:

- Ready Chesco text messaging (signup information attached)
- Reverse 9-1-1 phone calls
- Door-to-door notification by emergency response personnel
- Radio/TV alert

What will I be expected to do?

Every leak/spill is different, but there are some fairly standard responses. You will receive instructions to do one of the following:

- Shelter-in-place – This means you are safest staying in your home, inside, doors and windows closed (and sealed with plastic/duct tape if advised) with your heater/air conditioner off so you don't bring vapors inside.
- Evacuate – You will be advised that an evacuation is ordered. You should comply with that recommendation. An evacuation center will be set up to give you a safe place to wait out the repairs. You do not have to go to the evacuation center, but you do have to leave the evacuation zone, and do not return until advised it is safe to do so by the emergency responders.

How can I get more information about pipelines and pipeline safety?

- Chester County Planning Commission Pipeline Information Center
<http://www.landscapes2.org/pipeline/pipelinemain.cfm>

Pipeline Information Center Mapping Application

