



Fire Safety Tips:

Surge of summer fires from lightning-induced gas line ruptures may have been preventable

Date: August 24, 2011

This summer, the Jefferson Township Department has had several fires related to lightning storms. Firefighters discovered that some of these fires were caused by lightning induced electrical surges that traveled through the gas line (corrugated stainless steel tubing or CSST) and discharged into a ground inside the house, rupturing the gas line. These gas line ruptures typically result in a fire in the basement of the home up near the 1st floor support structure. If the fire does not ignite at the time of the surge, the house will begin filling with natural gas.



Floor support burned by ruptured CSST

Some studies have reported that the damage occurs because of the thin wall thickness of the CSST and its ability to dissipate the electrical energy. Black iron pipe that was used in years past for gas lines is 15 times thicker and is far less likely to rupture with the same electrical surge.

Although property owners may not be able to fully protect themselves from Mother Nature, they can be vigilant by taking prevention measures to reduce risk of fire or explosion.

- **Assure that the gas meter and associated outside metal piping is properly bonded to the grounding system of the home.** A proper bond can give the electrical surge a path to travel to a ground prior to entering your home. Many homes in our area were built before 2006, back when the installation standards did not require the bonding. If unsure, contact a qualified electrician or the homebuilder to verify that the meter and outside pipe have been bonded to the ground. The bonding may not prevent all lightning surges but will provide a good first line of defense.



Red Circle indicates rupture

- Assure that your smoke detectors are in good working condition, change the batteries twice per year and practice your home fire escape plans with your family. Make sure that your escape plan takes into consideration what to do in case you need to evacuate during a thunderstorm or inclement weather. If you suspect that your home has been struck by lightning immediately get everyone out of the house to a safe location and call 911.
- Please remember Jefferson Township Fire Department through a FEMA grant has smoke detectors free of charge to our residents while supplies last. Please contact (614) 861-3757 if you are interested in one.
- Should you have any other questions please feel free to contact the station and speak with the Fire Chief or Battalion Chief on duty.