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Pressler Forensics, Inc.

Forensic Files

Avon High School - Hot Water Heater Explosion

On May 11, 2000 at 6:05 p.m. a blast occurred at Avon High School; thankfully there were no fatalities in this explosion.

It was determined that a 5-gallon electric hot water heater located in a storage room adjacent to the high school cafeteria failed catastrophically, causing severe damage to the surrounding area. When the tank failed (ruptured), water flashed to steam.

The National Board testing lab concluded that the blast was caused by the failure of the pressure-temperature safety valve and a corroded, weakened pressure vessel.

This illustrates the importance of properly maintaining pressurized equipment, as well as training boiler, furnace and hot water heater technicians.

Hot water tank after explosion

Collapsed wall after the explosion

Odor Fade - An Invisible and Potentially Deadly Threat

A tragic 1937 natural gas explosion in Texas killed hundreds of students at New London School.

The State Legislature mandated odorants be added to odorless gas for easy leak detection.

Soon after this tragedy the practice of adding odorants spread throughout the world. The most common is Ethyl mercaptan with the distinctive "rotten egg" smell.

Years later, it was discovered that the smell additive could fade or odor fade.

Odor fade occurs:

1) **In new pipe installation with larger diameter and longer lengths.**
2) **In plastic pipe if smaller, shorter pipe installations.**
3) **Configuration and construction of customer's gas facilities.**
4) **Presence of rust, moisture, liquids, or other substances in pipes.**
5) **Intermittent, little or no gas flow over an extended period of time.**

Gas companies are aware of the odor fade phenomenon and are required to do periodic testing of their distribution systems and add odorants.
See insert for other ways to detect natural gas leaks.

Photo - New London School after gas explosion

Pressler Forensics, Inc.
18702 North Creek Parkway, Suite 213
Bothell, WA 98011

Phone (425) 485-3002
Fax (425) 485-8114
www.PresslerEng.com