



# Lightning Safety Alliance Corporation

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June 2007

# Safety Alert!



Gas related damage to a home in Texas. This is the type of damage that can result when lightning arcs and travels on CSST

## Lightning Fires Linked to Problem Gas Tubing

A recent class action lawsuit against four manufacturers of a relatively new type of fuel gas tubing has uncovered a serious fire risk that can be mitigated by installing a lightning protection system. The tubing, called CSST (corrugated stainless steel tubing) is a type of flexible piping that has been widely used in homes and commercial fuel gas applications in recent years. Unlike traditional, heavy-walled gas pipes, CSST is extremely thin and therefore susceptible to damage from lightning. Lightning traveling on the CSST can burn holes in the tubing and allow gas leakage and fire. In worst-case scenarios, such leaks have led to catastrophic gas explosions. The CSST piping has been found to be susceptible to damage from direct and even nearby lightning strikes.

CSST piping is popular with some contractors because it is easy to install. According to the National Fire Protection Association (NFPA) however, no tests on the effects of lightning on CSST were conducted prior to its approval for use. One CSST manufacturer has

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acknowledged that the installation of a lightning protection system in structures at the time the CSST gas piping is installed helps to mitigate the lightning hazard associated with CSST; unfortunately, homes with CSST piping are rarely equipped with lightning protection systems. Lightning strikes the United States more than 25 million times each year. A single bolt of lightning can carry over 100 million volts of electricity, making the hazard to homes outfitted with CSST piping a serious concern.



“Lightning does not have to strike a building directly in order for the CSST to be affected,” explains Guy Maxwell, president of the Lightning Safety Alliance. “The reports of CSST-related fires that I have seen have involved strikes that were away from the structure.”

In March 2007 the four defendants in the class action suit filed in the Circuit Court of Clark County Arkansas reached a Settlement. Under the guidelines of the Settlement, owners of structures in the US in which CSST was installed prior to September 2006 may obtain vouchers to defray part of the cost of mitigating the CSST hazard. The remedies identified by the settling parties include installing a lightning protection system and/or making bonding and grounding connections to certain systems in a structure.

“Unfortunately, there hasn’t been a lot of publicity given to this situation which is estimated to affect a million or more homes,” explained Bud VanSickle, executive director of the Lightning Protection Institute in Maryville, MO. “Property owners have just a few short months to take advantage of these vouchers. Whether property owners take advantage of the Settlement vouchers or not these folks have a serious fire risk in their homes that needs to be addressed.”

Despite the problems with CSST piping and lightning, the thin gas tubing is still being installed in new homes. Some CSST installation practices, although technically in conformance with current building code requirements, make it difficult to fully mitigate the lightning threat. For example, lightning experts note that the practices of mounting gas manifolds in attics with multiple CSST gas pipes leading downward to different appliances and of running CSST gas piping with many turns and direction changes make it more likely for lightning to arc to and from the gas pipes. If CSST gas piping continues to be installed, the bonding and grounding requirements for CSST in the current National Electric Code and National Gas Code need to be examined and likely augmented to take lightning into account.

The deadline to enter a claim under the CSST Settlement is September 5, 2007. For more information call 1-800-420-2916 or visit the website at [www.csstsettlement.com](http://www.csstsettlement.com).



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