

IMPORTANT NOTICE REGARDING INSTALLATION OF LIGHTNING PROTECTION IN FACILITIES CONTAINING CORRUGATED STAINLESS STEEL TUBING (CSST)

Corrugated Stainless Steel Tubing (CSST) is thinner than traditional black iron gas pipelines and has a known susceptibility to perforation, which creates the potential for leaking gas to ignite when exposed to voltages associated with those of a lightning strike on or near the structure containing CSST.

Lightning protection codes and standards promulgated by the National Fire Protection Association (NFPA) 780, Underwriters Laboratories (UL) 96A, and the Lightning Protection Institute (LPI) 175 are designed to protect structures from these voltages. NFPA's Gas Code (NFPA 54), incorporates the requirements of the lightning protection standards promulgated by the NFPA, UL, and LPI. However, the NFPA has determined that there is not enough technical data to show that the existing bonding requirements in NFPA 54 provide adequate protection from lightning-induced surges and subsequent gas leakage affecting facilities containing CSST gas piping. It has notified the CSST industry that it must provide substantiation for the safe use of CSST by conducting additional research and testing by an independent third-party. [See, *NFPA Standards Council Final Decision #12-15 (9 August 2012), #10-2 923 June 2012, and 09-18 (6 August 2009)*, found at <http://www.nfpa.org/categoryList.asp?categoryID+835>].

Installing a lightning protection system using the bonding requirements in the current NFPA 54 will help mitigate the threat of CSST perforation, but it cannot be guaranteed to prevent it, given the technical problems identified by the NFPA. Although solid black iron gas pipe does not experience this type of damage from lightning induced surges. Retrofitting black iron pipe into most existing facilities containing CSST may not be feasible. Therefore, we strongly recommend that additional bonding be done between the CSST system and the lightning protection system as a *minimum*, as outlined by the CSST manufacturers in the Lovelis v Titeflex settlement, dated March 5, 2007.

LPI and LPI-certified installers do not warrant that additional bonding will absolutely prevent perforation, given the inherent susceptibility of CSST. However, following these additional measures represents best practice until such time as technically-verified CSST product data is developed and test-based standards are adopted to remediate this threat.

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