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RE: Flameshield and NFPA 30A

Dear Sirs:

PEMEX is seeking an interpretation of whether the Flameshield tank meets the definition of a *fire resistant tank* within the NFPA 30 Flammable and Combustible Liquids Code.

As you may know the language for *fire resistant tank* first appeared in the 1996 issue of NFPA 30A, Automotive and Marine Fuel Service Station Code. It stated that

the tank had to be listed and be of a “construction that provides the required fire-resistive protection to prevent release of liquid, failure of the primary tank, failure of the supporting structure, and impairment of venting for a period of not less than 2 hours when tested using a fire exposure that simulates a high intensity pool fire, such as described in UL 2085, or equivalent test procedure.”

Steel Tank Institute worked with Southwest Research Institute, SwRI, and obtained a *fire resistant tank* listing to that definition and called it Flameshield.

In 1993, STI had worked with Underwriters Laboratories, UL and tested an insulated tank to the UL 2085 standard for a two-hour fire rating. The tank was generically called a *protected tank*. STI named it as the Fireguard.

The same temperature of 2000 Fahrenheit was used to test the Fireguard *protected tank* and Flameshield *fire resistant tank* for two hours. The principle difference between the tests was that the UL 2085 test measured the temperature inside the tank during the two

hour fire test and limited the temperature rise. The SwRI *fire resistant tank* did not have a temperature limitation within its test, since NFPA 30A did not mandate such.

In 2003, a protected tank manufacturer, Con Vault proposed a change to NFPA 30A. They created a new definition that the Committee adopted and approved. It made it a mandate for the *fire resistant tank* to be listed by Underwriters Laboratories UL 2080 standard. The UL 2080 standard also had a temperature limitation. This version of the NFPA 30A standard did not recognize the SwRI *fire resistant tank* listing.

As a result, STI discontinued calling Flameshield a *fire resistant tank*. Instead, our literature states that it is a two hour fire tested tank.

Of interest is that with jurisdictions that may still continue to reference the earlier versions NFPA 30A Code, the Flameshield can still be recognized.

Of additional interest is that we are not aware of any tank manufacturers building a *fire resistant tank* today under the UL 2080 standard. Yet the Flameshield tank remains as a very popular option to tank owners. They recognize that the tank can survive a two-hour fire test as long as the tank has proper emergency venting.

On the other hand, the Fireguard protected tank provides greater insulating value to the tank to further minimize vapor generation during a pool fire, and is highly recommended by fire safety officials, even though it is more expensive to produce.

Very truly yours,

Wayne Geyer, P.E.
Executive Vice-President

