Propane Rail Car Fire May Cause Explosion(5,000 evacuated)

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Firefighters in Lincoln California, located near Sacramento are currently trying to prevent a burning propane rail car from causing a massive explosion. Over 5,000 people have been evacuated from the immediate area of the fire. The worry currently is the potential failure of the 29,000 gallon tank. This would cause an explosion that would be like a small thermal bomb of superheated gas. All crews can do is try to cool the tanks and possibly siphon off the propane, although this is an extremely dangerous procedure.

To make matters worse there is a fuel line running through the area and an additional 170,000 gallons of propane stored nearby.



Cooling Propane Car In Lincoln Fire

The concern in this type of fire is it will cause a BLEVE (Boiling Liquid Expanding Vapor Explosion). BLEVEs can be caused by an external fire near the storage vessel causing heating of the contents and pressure build-up. Most fuel tanks are designed to withstand great pressure, but constant heating can cause the metal to weaken and eventually fail. See picture below of a BLEVE.

A similar tanker fire in the Arizona town of Kingman killed 11 firefighters and a gas company worker in 1973 when a rail car carrying a propane tank exploded. The resulting fireball injured more than 100 others nearby showering the surrounding area with shrapnel. The propane tanker was projected over a quarter of a mile and its impact dug a crater.

Two other similar incidents since 1993 involving propane has resulted in the death of six fire fighters. The first incident in Ste. Elisabeth de Warwick, Quebec, Canada, on June 27, 1993, resulted in the death of four fire fighters. The other BLEVE occurred in Burnside, Illinois, which resulted in two fatalities on October 2,



BLEVE

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