

# Engineering disasters



November 2013 Engineering Disasters , Texas on October , 2011, a , Inc. Chemical plant exploded. Luckily, no one was hurt as the fire spread so quickly that it consumed a fire truck and could not be stopped. The cause of the fire is unknown but the theory is said to of initiated while mixing chemicals. It was reported that there were safety precautions not being taken. For instance, they never flushed out the old chemicals before using a pump, and also, they never properly disposed of their waste.

So, it's said that a spark from igniting flammable vapor started the whole thing. This was a chemical engineering problem because the design of the plant wasn't made to take into account these safety precautions. As these hazardous chemical vapors, like ammonia, went into the air, people were told to close their windows and doors and to evacuate any neighborhoods or schools nearby. [Http://. Org p= 295](http://. Org p= 295) On October , 2010 In Aka, Hungary, a dam at the Altair alumina plant collapsed causing an Immense amount of “ red mud” to be flooding the town.

The “ red mud” came In a 3-7 foot wave and caused 4 deaths, 123 Injuries, and a lot of ecological destruction of 15 square miles. This “ red mud” Is a waste product from the Bayer process, which Is used to create alumina, and Is stored In large open air ponds. Because of this, the “ red mud” had many heavy metals along with Iron (III) which caused this to be extremely alkaline. The cause of this flood Is thought to be due to the really wet day which caused the structural Integrity of the dam to be weakened.

Also, since these ponds are open air, the ponds could have gained more liquids to from the wet day which caused the weight to overbear the dam.

This disaster is due to a chemical engineering design failure because they should have created a backup just in case one of the dams overflowed or collapsed. <http://win.engineering.com/library/table/85/171> [- Bridge. On the 7th of November, 1940 a bridge in Tacoma, Washington collapsed causing one death, which was a dog. Since the opening of this very long bridge, the winds had their way with it causing the bridge to sway and oscillate.

Then one day while the bridge was swaying, something snapped which caused the bridge to oscillate up to 28 feet above the other side. As time went on, the bridge began cracking and eventually collapsed. The cause of this phenomenon is from flutter caused by the wind not being able to pass through the bridge's deck. As it caught the wind, the bridge began to sway. This disaster was due to a failure in design by engineers, but because of this accident, research was increased in bridge aerodynamics.