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### **Tesoro Refinery Explosion**

On April 2, 2010, a heat exchanger ruptured in the Naphtha Hydrotreater (NHT) unit of the Tesoro petroleum refinery in Anacortes, Washington, resulting in a massive explosion. The carbon steel heat exchanger ruptured due to High Temperature Hydrogen Attack (HTHA) that severely weakened the steel making it susceptible to cracking.

Highly flammable hydrogen and naphtha exceeding 500 °F was suddenly released from the ruptured heat exchanger and ignited, causing an explosion followed by an intense fire. The explosion fatally injured seven Tesoro employees who were working in the immediate vicinity of the heat exchanger at the time of the incident. This is the largest fatal incident at a US petroleum refinery since the BP Texas City accident in March 2005.

Tesoro workers were in the final stage of a startup and had just placed the bank of heat exchangers back in service following a cleaning when the explosion occurred. The Naphtha Hydrotreater unit contained two parallel banks of heat exchangers – one of which remained operational while the other was taken off-line for service.

[Explosion and fire at the Tesoro Refinery in Anacortes kills seven refinery workers on April 2, 2010](#)

[CSB Animation of the Explosion at Tesoro's Anacortes Refinery](#)



















