

Refinery Safety

EDM Services, Inc.
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Tesoro Blast



- ❑ Horrific explosion on Friday, April 2, 2010 at 12:30am in Anacortes, Washington.
- ❑ Cause was a sudden release of hydrocarbon that ignited very quickly. The blast occurred as employees were reinstalling a unit that had recently undergone maintenance. The unit processes highly flammable liquid derived during the refining process.
- ❑ Four workers at the refinery died at the scene, one died days later at the hospital, another died 11 days later and the last victim died on Saturday all from extensive burns.
- ❑ Victims died within minutes of the explosion from burns to their entire bodies as they were engulfed by flames and inhalation of toxic combustion products.
- ❑ Fined last April \$85,700 for serious safety and health violations, which could lead to serious injury or death. The fine was later reduced to \$12,250 as part of a formal settlement.
- ❑ Inspectors found 150 instances of deficiencies in which the company failed to ensure safe work practices and update safety information when changes were made to equipment.
- ❑ Tesoro has owned this refinery since 1998 & produces about 130,000 barrels of crude daily, mostly for the Washington and Oregon areas.
- ❑ The exact cause is still under investigation.



BP Products

- ❑ March 23, 2005 BP had the worst explosion in history.
- ❑ 15 workers were killed & 170 injured.
- ❑ The explosion happened during the restart of a hydrocarbon isomerization unit. The spark from a car left running and unattended ignited the explosion.
- ❑ Organizational and safety deficiencies were found at all levels of the BP Corporation which meant that a catastrophe was waiting to happen.
- ❑ Cost cutting affected the safety program and critical maintenance.
- ❑ Fatigued workers and internal safety audits were not acted upon.
- ❑ BP spent several billions in repairing and improving the refinery's equipment and operations and to settle lawsuits filed after the accident.



“If you think safety is expensive wait until you have an accident”

Refinery Updates...

- ❑ The American Petroleum Institute issued two new refinery safety standards on April 22, 2010. The first will help processors identify and use safety indicators to reduce risks, while the second will provide guidance on reducing fatigue risks.
- ❑ One-third of all investigations by the Chemical Safety and Hazard Investigation Board are currently at refineries.
- ❑ Part of the problem in maintaining adequate safety is that there are few incentives for refiners to make work environments safer and little in the way of consequences from OSHA when there is a serious accident.
- ❑ OSHA recently hit BP with dozens of safety violations, at their refinery in Toledo, Ohio, which could cost them nearly 3 million in fines. This, after 5 months ago OSHA slapped them with 87.5 million in fines for failing to fix safety problems at the refinery in Texas found after the deadly explosion that killed 15 workers.



Tesoro's Aftermath

Recent Accidents

March 2, 2010: An explosion and fire at Dallas-based Holly Corp.'s refinery in New Mexico kills two workers.

Dec. 4, 2009: A boiler fails at San Antonio-based Valero Energy's Texas City plant, killing one worker.

March 10, 2009: Explosion at a Marathon Oil Corp. facility in Vacherie, La., kills one and injures three.

Nov. 6, 2005: Two workers are killed at Valero oil refinery in Delaware City, Del., after succumbing to nitrogen fumes.

Last 5 years = 26 deaths
