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Trailer Siting Issues: BP Texas City

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Abstract

At approximately 1:20 p.m. on Wednesday, March 23, 2005 a series of explosions and fire occurred at the BP Texas City oil refinery during the startup of an isomerization (ISOM) process unit. Fifteen workers were killed and about 170 others were injured. Many of those killed were working in or around office trailers located near a blowdown drum and stack open to the atmosphere. CSB found that because of problems initiated during the ISOM process unit start-up, the blowdown atmospheric vent stack experienced a sudden, geyser-like release of flammable hydrocarbon liquid and vapor. This release created a flammable vapor cloud, which ignited, resulting in explosions and fire in and around the ISOM unit. A total of 43 trailers were damaged by the blast pressure wave that propagated through the refinery. Thirteen trailers were totally destroyed, five were heavily damaged, 12 had heavy to moderate damage, 10 were lightly damaged, and three had only cosmetic damage. Roof and wall collapse damage on trailers was seen up to 600 ft away from the ISOM blowdown drum.

The focus of this paper will be trailer siting. In particular, the paper will discuss:

- Need for work trailers within process units
- Adequacy of risk analysis methods in API 752
- Minimum safe distance requirements

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