

BP blast in 2005 could have been stopped

By Erwin Seba
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HOUSTON (Reuters) - An X-ray or a tag could have prevented a July 2005 blast at BP's giant Texas refinery and saved the company \$30 million (16 million pounds), an investigation concluded, according to results released on Sunday.

An X-ray of the 800-pound (360 kilogram), carbon steel elbow-shaped pipe or a tag describing its composition would have prevented it from bursting after being put in the wrong location by a contractor during a February 2005 overhaul at the Texas City refinery, according the U.S. Chemical Safety and Hazard Investigation Board.

The July explosion came four months after a blast at the refinery killed 15 workers and injured 180 other people, the first in a string of mishaps that has led to questions about BP's ability to manage its refining and production assets.

BP's 460,000 barrel per day (bpd) refinery in Texas City was hit by another fire in August, triggering an unprecedented Chemical Safety Board request for BP to probe the safety programs at its five U.S. refineries.

"BP has recognized that there is an unhealthy safety culture at this facility that contributed to these accidents," CSB Chairman Carolyn Merritt told reporters on Sunday.

BP spokesman Neil Chapman said on Sunday the company concurred with the CSB's findings, which match those of an internal investigation.

"We have recognized there were things that needed to be fixed," Chapman said. "We are taking action. We have been doing that for a very, very long time now."

BP has implemented programs to X-ray and tag materials used on machinery at the refinery, Chapman said.

The carbon steel elbow-shaped pipe was placed on a residual hydrotreater at the refinery. It looked exactly like two alloy steel elbow pipes on the hydrotreater, the board said.

Carbon steel can fail when exposed over time to hydrogen under high heat, which is exactly what was passing through the pipe.

A residual hydrotreater uses hydrogen under high heat and pressure to increase the amount of refinable material in a barrel of crude oil.

The susceptibility of carbon steel failure when exposed to hydrogen under high heat has known been since the 1940s.

Hydrogen under high heat and pressure does not break down alloy steel. The carbon steel elbow was supposed to be on a low-heat location on the hydrotreater.

BP should have used an X-ray machine at the refinery to identify the elbow pipe's composition, the board said. A tag placed on the elbow pipe identifying its composition was lost before the contractor doing the overhaul, JV Industrial Companies, put it on the hydrotreater.

One worker at the refinery suffered minor injuries while the hydrotreater was being shut down after the explosion.