

what happens when you *fail* to

Break ^{the} Mishap Chain

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Explosion Site

The S.S. Grandcamp explosion as seen from the air triggered America's worst industrial accident.

While docked, the Texas City Terminal (TCT) railway loaded 2,300 tons of ammonium nitrate into the ship's other holds.

A chain reaction, that would have never started if Operational Risk Management (ORM) had been applied, occurred when a careless worker discarded a cigarette into one of the holds, catching the ship on fire.

The first link occurred when the crewmember, who dropped the cigarette, ignored the "no smoking sign."

The second link occurred when other crewmembers wanted to use water to put out the fire, but the ship's captain didn't want to ruin his cargo.

The third link occurred when, to suffocate the flames, the captain hastily ordered the men to close the hatch, cover the cargo with a wet heavy tarp, and activate the ship's steam smothering system.

The fourth link occurred when the captain ordered his crew to abandon ship.

All of these links created a chain that led to disaster. The captain did not realize that the steam he ordered activated, when combined with decomposing fertilizer, created a combustible gas. As a result, when the crew left the S.S. Grandcamp, it became a floating bomb.

The chain continued to grow when the terminal head called an engineer at a nearby chemical plant and asked about the dangers of burning ammonium nitrate. The engineer told the terminal head not to worry because "ammonium nitrate won't explode without a detonator." The terminal head made no further inquiries. The ship did indeed explode lifting the 7,176-ton ship 20 feet into the air. The explosion also killed most of the people in and around the ship — including all the firefighters on the scene.

The chain grew further when no one considered or even discussed moving other ships in the dock area to prevent further damage. Two other ships, the High Flyer and the Wilson B. Keene, were moored approximately 100 yards away. The High Flyer also contained ammonium nitrate. The explosion of the S.S. Grandcamp created a huge wave that crashed into the High Flyer and the Wilson B. Keene. These two ships crashed into each other starting another fire. The High Flyer also exploded. Five hundred seventy-six people were killed in 16 hours.

What's disturbing about this disaster is that most of the critical decisions made in this crisis were made by the so-called experts in their fields. Experts that did not check all of the facts and made false assumptions. Others were made on the spur of the moment by individuals who knew little or nothing about the situation.

The captain was the first who could have possibly avoided this disaster. He could have considered the lives of his crew over his cargo. Had he had ORM in his day, he could have saved lives and possibly his cargo. In the end, he lost both.

You might be saying to yourself, "what does this story about ships have to do with me — a munitions troop?" Well a lot. You can be the one to break the chain of events that can lead to a disaster by using proper ORM. If you need to take charge and you are not sure of what to do, seek help and advice. Apply the ORM process and think before you act, the life you save may be your own. ▶



The April 16, 1947 Texas City Disaster

Top to bottom: Cars blown by the explosion piled up on each other. The destroyed parking lot at Monsanto chemical company. The blast as seen from across the bay in Galveston.