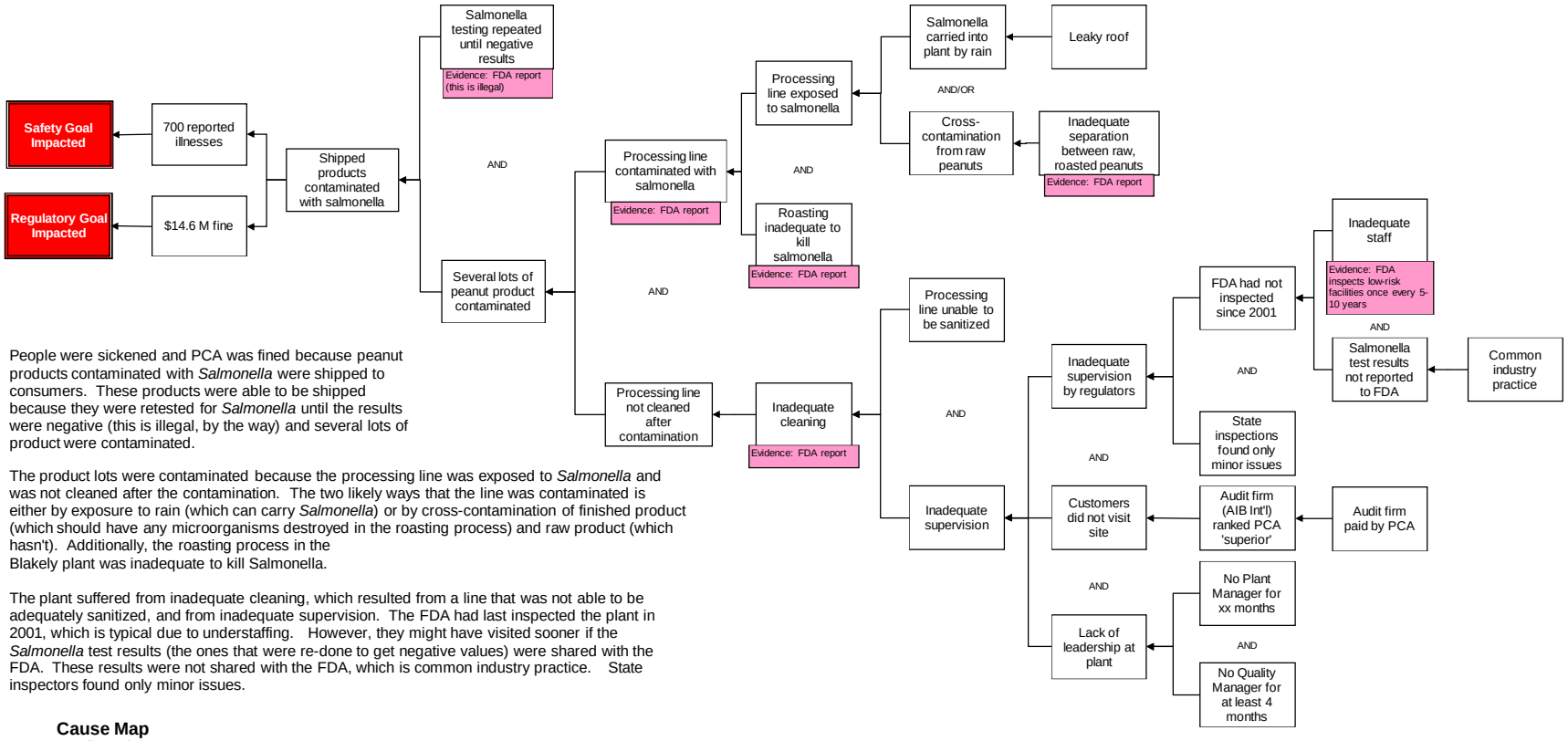
Salmonella Contamination in Peanut Products

In January, 2009, health officials discovered *Salmonella typhimurium* in a jar of peanut butter. The Food and Drug Administration (FDA) was able to trace the contamination back to the Peanut Corporation of America (PCA)'s Blakely, Georgia plant. A root cause analysis built as a Cause Map can show the causes of this tragic, preventable incident in a simple, intuitive format that fits on one page.

To begin our root cause analysis, we start with the impact to the goals. The peanut products contaminated with salmonella resulted in 700 reported illnesses. This is an impact to the safety goal. Also, PCA received a $14.6 million fine for shipping products contaminated with *Salmonella*. This is an impact to the regulatory goal. There are other goals that were impacted as well, but we will begin with these two.



People were sickened and PCA was fined because peanut products contaminated with *Salmonella* were shipped to consumers. These products were able to be shipped because they were retested for *Salmonella* until the results were negative (this is illegal, by the way) and several lots of product were contaminated.

The product lots were contaminated because the processing line was exposed to *Salmonella* and was not cleaned after the contamination. The two likely ways that the line was contaminated is either by exposure to rain (which can carry *Salmonella*) or by cross-contamination of finished product (which should have any microorganisms destroyed in the roasting process) and raw product (which hasn't). Additionally, the roasting process in the Blakely plant was inadequate to kill Salmonella.

The plant suffered from inadequate cleaning, which resulted from a line that was not able to be adequately sanitized, and from inadequate supervision. The FDA had last inspected the plant in 2001, which is typical due to understaffing. However, they might have visited sooner if the *Salmonella* test results (the ones that were re-done to get negative values) were shared with the FDA. These results were not shared with the FDA, which is common industry practice. State inspectors found only minor issues.

None of PCA's customers appeared to have visited the site, possibly because they relied on an audit firm's "superior" ranking. This audit firm was paid by PCA. There was also inadequate supervision due to inadequate leadership at the plant, which had no plant manager for a portion of 2008, and was missing a quality manager for four months.

Even more detail can be added to this Cause Map as the analysis continues. As with any investigation the level of detail in the analysis is based on the impact of the incident on the organization's overall goals.

Cause Map
Detail Level

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Why?

Effect ← Cause

NOTE: Read the Cause Map from left to right with the phrase "Was Caused By" in place of each arrow.