

1 Problem

What When	Problem(s)	Train derailment, evacuation
	Date	May 17, 2008
	Time	~1:40 am
Where	Different, unusual, unique	Carrying hydrochloric acid, ethylene oxide
	State, city	Lafayette, LA
	Facility, site	Railway
	Task being performed	Transport of chemicals

Impact to the Goals

Safety	5 people suffered minor injuries
	Potential for more severe injuries
Environmental	Release of ~11,000 gallons hydrochloric acid
Customer Service	Approximately 3,000 people evacuated
Production-Schedule	Train delayed
Property, Equip, Mtls	Potential for damage to cars
Labor, Time	Cleanup effort

TRAIN DERAILMENT

Cause Map

Minor injuries, evacuation result

At about 1:40 am on May 17, six rail cars derailed and overturned near Lafayette, Louisiana.

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

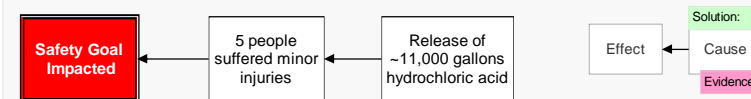
CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis

- Step 1 Problem** - What's the Problem?
- Step 2 Analysis** - Why did it happen?
- Step 3 Solutions** - What will be done?

2 Analysis

Basic Level Cause Map - Start with simple Why questions. **Basic Cause-and-Effect**



More Detailed Cause-and-Effect

At about 1:40 am on May 17, six rail cars derailed and overturned near Lafayette, Louisiana. One of the cars was damaged and leaked about 11,000 gallons of hydrochloric acid. Five people, including two rail workers, were sent to a hospital and treated for eye and skin irritation.

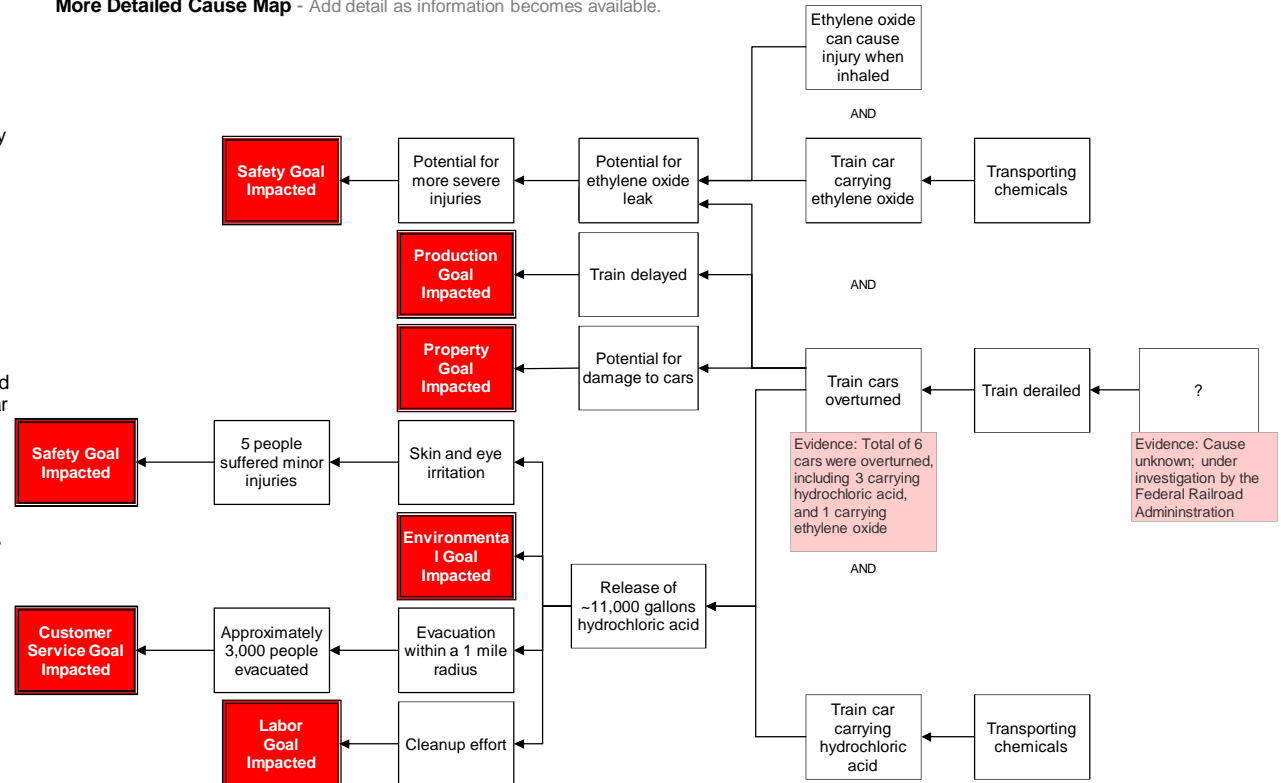
Authorities evacuated people with 1 mile of the accident. Approximately 3,000 people were affected, including a few small businesses and a nursing home. All affected people are being reimbursed for food and hotel costs by the railway company that operated the train.

There was potential for further release of chemicals because one of the rail cars involved in the accident carried ethylene oxide, a flammable and dangerous chemical, and two of the remaining cars also carried hydrochloric acid.

The Louisiana State Police's hazardous materials unit is overseeing clean-up of the accident site. The spill is being neutralized with lime and the contaminated material will be removed and disposed of. The rail car containing ethylene oxide was removed from the site quickly to reduce the potential for additional problems.

The cause of the derailment is not known at this time. The Federal Railroad Administration will conduct an investigation of the accident. This root cause analysis of the train derailment was built using the facts that were available in media reports on the accident. As more details are known, the Cause Map can be expanded.

More Detailed Cause Map - Add detail as information becomes available.



For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.



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