2 KILLED BY BUOY

Cause Map

10,000 Pound Buoy Falls on Workers

On December 10, 2014, a buoy that weighs close to 10,000 pounds fell onto workers at an inactive ship maintenance facility in Pearl Harbor. Two workers were killed and two others sustained injuries. While an object this large is an extreme example of the dangers of dropped objects, worker injuries and deaths from falling objects of all sizes is a significant worker safety concern. A US census report of fatal occupation injuries states that 245 workers were killed after being struck by falling objects in 2013 alone.

"We're still looking at the facts to try to determine the exact locations of where these employees were located. If in fact, they were working directly underneath the load, then that would be an alarming situation."

- Jeff Romeo, Occupational Safety and Health Administration Honolulu area director

1 Problem

What	Problem(s)	2 killed by falling buoy
When	Date	December 10, 2014
	Time	~10:19 A.M.
	Different, unusual, unique	?
Where	Facility, site	Pearl Harbor's Naval Inactive Ship Maintenance Facility
	Unit, area, equipment	10,000 lb. buoy
	Task being performed	Lifting buoy into position

Impact to the Goals

Safety	2 killed, 2 injured
	Delay in emergency response
Production/ Schedule	Work stopped during rescue and recovery
Property/ Equipment	Damage to equipment and material ?
Labor/ Time	Company stopped work at site pending investigation

2 Analysis

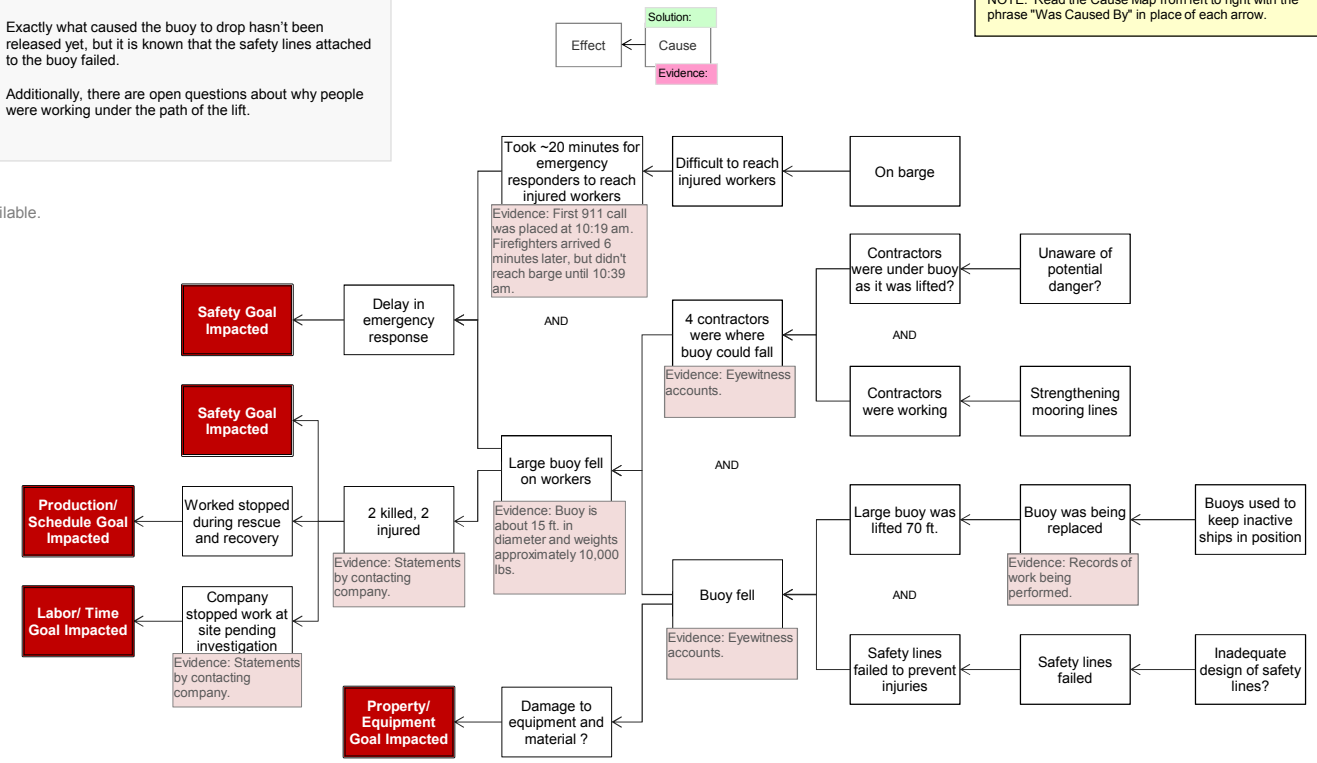
Basic Level Cause Map - Start with simple Why questions.

Basic Cause-and-Effect

Exactly what caused the buoy to drop hasn't been released yet, but it is known that the safety lines attached to the buoy failed.

Additionally, there are open questions about why people were working under the path of the lift.

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



3 Solutions

The OSHA investigation is currently underway and is expected to take four to six months. Additionally, the Navy is launching a Safety Investigation Board to review the accident with findings expected to be released by February. Once the investigation is complete, work processes will need to be reviewed to see what changes need to be made to prevent any future injuries from falling objects.

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?

Why?

Effect ← Cause

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

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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