

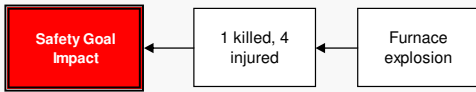
# 1 Problem

## Step 1. Outline the Problem

<b>What</b>	Problem(s)	Furnace Explosion
<b>When</b>	Date	September 12, 2011
	Differences	?
<b>Where</b>	Physical Location	Centraco site, France
	Work Being Done	Burning low level nuclear waste
<b>Impact to the Goals</b>	<b>Safety</b>	1 killed, 4 injured
	<b>Environmental</b>	Potential for radiation leak?
	<b>Production-Schedule</b>	Furnace out of service
	Frequency	This Incident
		Annual Total

# 2 Analysis

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



### Basic Cause-and-Effect

A furnace burning low level nuclear waste exploded, killing one and injuring four more at a nuclear waste processing site in France. No radiation leaks were detected, but the incident made headlines world wide.

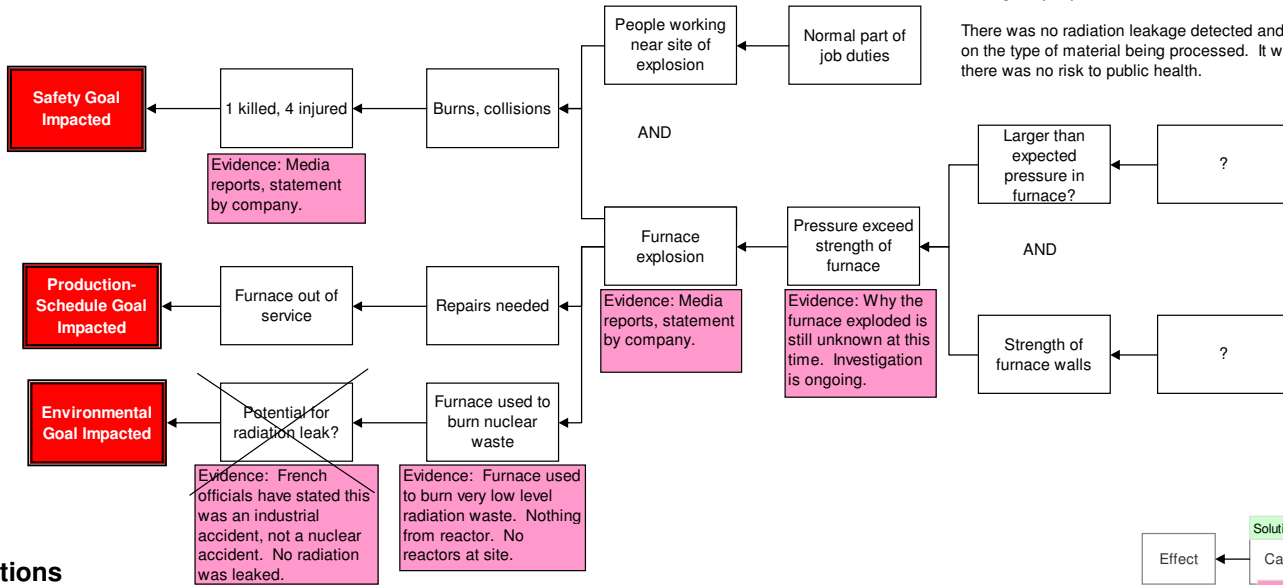
### More Detailed Cause-and-Effect

When the word "nuclear" is involved emotions and fears can run high, especially following the recent events at the Fukushima nuclear plant in Japan. This incident is a good example where providing clear information can help calm the situation. The explosion in France happened when a furnace used to burn nuclear waste failed. The cause of the explosion itself isn't known at this time, but there is some relevant background information available that helps explain the potential ramifications of the explosion.

The key to understanding the impact of this incident is the type of nuclear waste that was being burned. According to statements by the French government, the furnace involved was only used to burn waste with very low level contamination. It burned things such as gloves and overalls as well as metal waste like tools and pumps. No objects that were part of a reactor were treated in the furnace. There are also no reactors at the site that could be potentially damaged by explosion.

There was no radiation leakage detected and the potential for large amounts of released radiation wasn't there based on the type of material being processed. It was a horrible accident that resulted in a death and severe injuries, but there was no risk to public health.

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



How France views nuclear power is also a bit of background worth knowing. France is the world's most nuclear power dependent country. Fifty-eight reactors generate nearly three fourths of France's power. France is also a major exporter of nuclear technology. The public relations issues associated with a nuclear disaster in France would be very complicated.

# 3 Solutions

After the investigation is complete, the final step of the Cause Mapping process would be to brainstorm possible solutions and then determine what solutions should be

# EXPLOSION KILLS ONE

## Cause Map

One was killed and 4 were injured at an explosion at a site that burns nuclear site in France. Was the potential for danger much greater because of the nuclear material involved?

"It's an industrial accident and not a nuclear accident."  
- French Industry Minister Eric Besson.

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

