Problem Definition

What
Problem(s)
Titanic sank, ship hit iceberg, weak rivets
When
Date, Time
April 14th, 1912
Where
Physical Location
North Atlantic
Process Location
Passengers UK to US
Impact to the Overall Goals
Safety
1500 Fatalities
Vessel
Lost entire ship $ 7,500,000
Business
Liabilities, business loss $ 16,500,000
Frequency
1x

1

Titanic Sank
AND
Water Filled Hull
Iceberg Present
Ship Didn’t Turn Sufficiently
Solution: Change steel hull design, materials

No Binoculars

North Atlantic Current

Speed (18 knots)

Size of Rudder

Saw iceberg late

Ship Crossing Atlantic

Transporting Passengers

Strength of Hull

Opening in Hull

Steel Plates Buckled on Hull

Bulkheads Not Sealed

Ship Hit Iceberg

North Atlantic

Iceberg

Present

Solution: Slow down with known icebergs

Solution: Improve bow watch comm process

Solve Problems. Prevent Problems.

3 Solutions

<table>
<thead>
<tr>
<th>No.</th>
<th>Cause</th>
<th>Action Item</th>
<th>Owner</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Insufficient lifeboats</td>
<td>Add more lifeboats</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Speed (18 knots)</td>
<td>Slow down with known icebergs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Saw iceberg late</td>
<td>Improve bow watch comm process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Strength of Steel</td>
<td>Change steel hull design, materials</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 1 is the Definition of the Problem. It is written in an outline format so that it's easy to capture and easy to read. The problem is always defined by the specific impact to the organization's overall goals - the deviation from the ideal state.

Step 2 is the Analysis of the incident. The cause-and-effect relationships are identified by asking "Why?" questions starting with the Goals that were impacted. While the Cause Map may start linearly, as more information is added the Cause Map expands to provide a detailed view of the entire event.

Step 3 is the selection of specific Action Items to prevent the issue from occurring. Many possible solutions may be considered, but the only the best solutions are selected for implementation. Each action item in the Action Plan will have a specific owner with a scheduled due date.

Houston, TX
Office 281-412-7766
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