

How to Investigate a Spill

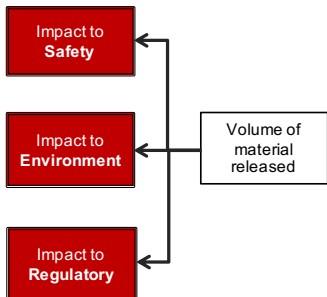
A spill, leak or release may be one of the more common incidents that we see. This template can be used to start a Cause Map™ for most releases. It covers some of the basic questions that need to be asked. What was the duration of the release? Why is the released material here? What pushed the material out of its containment? What was the release path?



Evidence If there is evidence to support a cause, then add that information to the Cause Map™. This strengthens the validity of the cause-and-effect relationships.

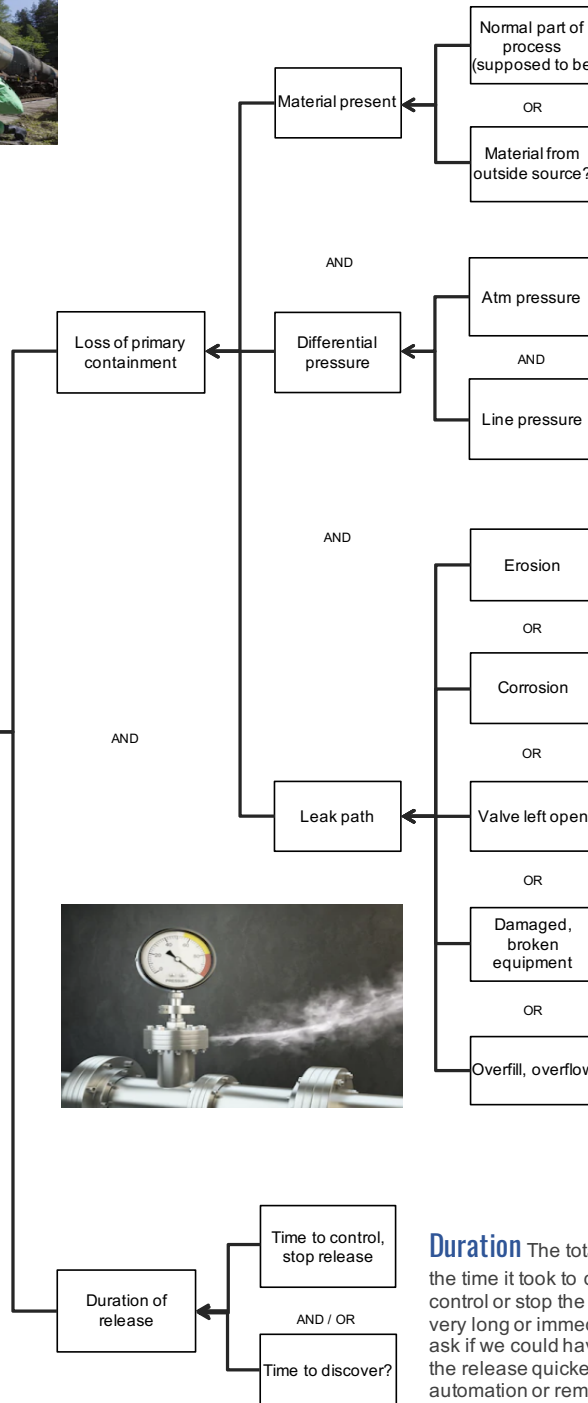
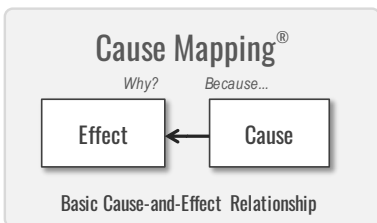
Evidence:

Impacted Goals A release has the potential to impact every facet of an organization. These three are the most common goals we see impacted.



Solutions Recommendations. Action items. To us, these words mean the same thing. A thorough Cause Mapping® investigation should lead you to effective solutions. The team may only choose one solution or you may choose a combination of solutions. We encourage investigation teams to brainstorm and capture multiple solutions, even if they may not get chosen to implement.

Possible Solution:



Material Present It's important to ask why the material was here in the first place. Is the fluid or gas part of the normal process? Were we expecting this material to be here?

Differential Pressure There must be a pressure gradient for the fluid to be forced from its primary containment. The difference may be as simple as the normal operating pressure being higher than the surrounding atmospheric pressure, but it's important to ask the question to be sure. If abnormal conditions existed, then you will want to continue asking 'why'.

Leak Path This cause may lead to the most additional why questions. The causes listed here are just suggestions and are not all inclusive. For example, if corrosion is determined to be the cause of a hole in a pipe, then ask if it was internal or external corrosion.

If equipment was left open then why didn't we know about it? Is there a procedure that accompanies the task?

Did something break? What were the stresses on that equipment compared to its strength?

It's possible that a tank or vessel overflowed. We would want to explore both the inputs and the outputs of the vessel.

Overall, we want to understand if there were any warning signs that the material was about to leave the primary containment.

Duration The total duration of the release is a combination of the time it took to discover the release and the time it took to control or stop the release. Each portion of the duration may be very long or immediate. To arrive at effective solutions it's good to ask if we could have discovered the release quicker or stopped the release quicker. For example, one cause may lead to automation or remote controls, while the other may lead to physical isolation points.

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