

How's Your Cheese?

By Russ Lawton

What do Swiss cheese and safety have in common? Quite a lot it turns out. Research shows that, without proper defenses in place, your company could have “holes” that allow accidents and other unwanted events to occur.

The “Swiss cheese” model of how unwanted or unplanned events can occur was developed by Dr. James Reason, who is world renowned for his work in looking at how conditions in individual organizations contribute to accidents.

Within every organization, there are layers: the decision-makers or top management, line management who implement top management's strategies, and the front-line staff or line activities. All three layers exist in the organizational culture, which can be healthy, unhealthy, or somewhere in between.

In an ideal world, each layer in an organization works together to protect the system when a hazard or potential hazard arises. Unfortunately, the real world seldom functions in this manner. Holes in the defensive layers occur, and when these holes align, the organization can suffer a loss. (See illustration below.)

Reason describes two types of conditions in an organization that contribute to loss: active failures and latent failures. Active failures are unsafe acts committed by people who are in direct contact with the system and consist of slips, lapses, mistakes, procedural violations, etc. Whereas, latent failures are pre-existing conditions

that can lie dormant in the system for many years before they combine with active failures to create an accident opportunity.

Latent conditions are resident in the system and arise from decisions made by designers, builders, procedure writers, top management, etc. These pre-existing conditions include pressure, understaffing, inadequate equipment, fatigue, inexperience, etc.

Think of active failures as mosquitoes that can be swatted one-by-one but never go away altogether. Whereas, latent conditions can be thought of as the swamp that must be drained to prevent the mosquitoes from returning.

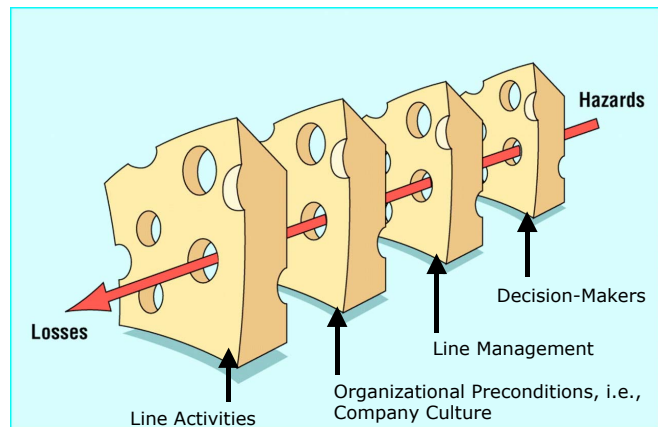
An organization can respond to an incident or accident in either of two ways. The first is to blame the individual or individuals directly involved and go no further in the ensuing investigation (swat the mosquitoes). This is also known as the “person approach,” where you need look no further for the cause once the unsafe acts are identified.

The second response is a proactive approach and results when the organization is introspective and determines whether any pre-existing or latent conditions (the swamp) could have caused the incident.

The good

news: Latent conditions can be identified and remedied before an adverse event occurs (drain the swamp). This can be accomplished with a top-down hazard identification and risk analysis plan within the company. Everyone at every level needs to be involved in this activity, which typically takes several months of dedicated effort to complete.

Once the initial effort is complete, an action plan for making the necessary changes to manage risk within the organization should be developed and monitored. The plan should be reviewed periodically and whenever change occurs within the company. It's an ongoing process that results in proactive risk management. And this is what good safety management is all about. If nothing else, implementing a continuous hazard identification and risk management plan will allow you to move on to a different brand of cheese.



James Reason's Swiss cheese model of how defenses, barriers, and safeguards may be penetrated by an accident trajectory.