



Event Learning:

Rethinking Incident Investigations

White Paper

Safety has come a long way over the past few decades, and we should be applying what we know across all elements of safety. This includes rethinking incident investigations to be the productive and useful tools they are meant to be.

How satisfied are you with the value you gain from your incident investigations? Many companies find that their investigations provide few insights or solutions, and the return on their investigation investment is minimal.

We have all heard the (in)famous definition of insanity: Doing the same thing over and over and expecting different results. Yet, for some reason, we seem to continue to do this with incident investigations. Safety has come a long way over the past few decades, and we should be applying what we know across all elements of safety. This includes rethinking incident investigations to be the productive and useful tools they are meant to be.

Where can current practices go wrong?

Organizations do not always get the desired results from investigations for many reasons. Common problems include:

- Focus on a single cause
- Pressure to produce results quickly
- An emphasis on finding fault vs. learning
- Investigators with limited training and experience
- Restrictive software reporting requirements
- Corrective actions that do not reduce exposure
- Limited understanding of human and organizational factors
- Not applying system learning
- Not considering potential severity when deciding what to investigate and how deep to dig

Consider some examples where these shortfalls impacted results and diminished the overall effectiveness and value of the investigation:

1. An employee sticks his finger into a malfunctioning machine and receives a minor injury.

The investigation reveals that preventative maintenance on the machine is overdue. The equipment is repaired, and the employee is disciplined.

Missed Opportunity: A different view and deeper look would consider a downtime history with this equipment and other similar equipment in this and other plants, frequency of overdue maintenance, the culture that allows or encourages employees to take this type of action (risk tolerance misalignment), and human factors issues.

Underlying Issues: an emphasis on finding fault vs. learning, corrective actions that do not reduce exposure, limited understanding of human and organizational factors, and not applying system learning

2. The brakes fail on a vehicle and an employee is struck and seriously injured.

The investigation reveals that a defective part caused the failure, and a manufacturer recall was issued last year. The vehicle is repaired, and the site reviews its records to look for any other recalls.

Missed Opportunity: A deeper look might find that this company has 120 of these same vehicles in other locations, with some of them taking action on the recall and others not. Further, it might be determined that the company has no process for dealing with recalls.

Underlying Issue: not applying system learning

3. An employee strains her back when lifting.

Since the incident is recordable, management wants the investigation results by the close of business. The investigation determines that she employed improper lifting techniques and a “stand-down” is conducted with all employees to discuss what happened.

Missed Opportunity: A deeper look would understand the context of what took place, the configuration of the plant if help was available, and whether there was a better way to do the lift through some engineered material-handling processes.

Underlying Issues: focus on a single cause, pressure to produce results quickly, and corrective actions do not reduce exposure

4. A near miss occurs when an employee slips on a mezzanine under construction while not tied off.

The event is recorded in the company’s software and the case is closed and listed as “failure to follow procedure” in the software’s one-option drop-down menu.

Missed Opportunity: The potential severity of this event should have required a full investigation. A deeper look could reveal issues with task planning, faulty procedures, or human error considerations – we don’t know WHY the procedure was not followed!

Underlying Issues: focus on a single cause, restrictive software reporting requirements, and potential severity not considered in deciding what to investigate and how deep to dig

Better investigations are needed. So, what should a new paradigm look like that finds and addresses these underlying issues?

Rethink the purpose: Learning is paramount

If you ask people the purpose of an investigation, you will likely get answers like “to prevent recurrence,” or “to find and fix the root cause(s) of the incident.” All correct answers, but what does that look like in practice?

A much simpler (and more powerful) answer is that the purpose of an investigation is “**to learn.**” And when we talk about learning, we should think about that from a **system** perspective.

First, an investigation should eliminate, reduce, or control exposure to injury.

Exposure is the vulnerability that occurs when people intersect with a hazard. This vulnerability surfaces for many reasons, and this goes well beyond standard hazard recognition that most companies already understand. Picklists, terminology wars, and opinion discussions over root cause usually do not result in a reduction of exposure because they lack context. Further, do corrective actions address the vulnerability? If they don't, an investigation becomes nothing more than a paper exercise.

Second, investigations need to consider human performance factors. Most investigators do not have human performance knowledge, and most systems/tools do not address human performance in a meaningful way, or they use outdated concepts. Until we accept that humans will make mistakes, understand the ways and reasons we make them, and have strategies to combat them, we will always be leaving exposure on the table. People simply work within the system we design for them, and they are very good at adapting to it, whether it is a good system or a bad one. Investigations should help us understand how to make systems work for humans.

Third, potential severity should be considered when deciding what and how to investigate. For example:

- Serious injuries and fatalities (SIFs) and events with the **potential** (SIFp) for a serious event should receive a full and thorough investigation.
- Low-severity potential events should: include basic data collection and retention; fully investigate trends in exposure based on incident data (including near misses); and utilize continuous improvement teams/processes for solution development (organizational learning).

It should be noted that while lower-potential events may not always be investigated, you should perform as many as your resources allow to continue to battle exposure of all kinds and to learn. This also keeps the proficiency of your investigators high.

Finally, and probably most importantly, go beyond the incident. Even when good investigations are performed, it is rare that problems are studied at the **system** level to apply organizational learning. If an investigation output (report) does not elevate to a higher level for further action, you are solving your problems one site or business unit at a time. Site-level or regional-level employees simply do not have the visibility, ability, bandwidth, power, or budget to be able to effect system change, even when they know a problem exists.

One last consideration: True learning only happens in an atmosphere of trust.

The word “investigation” itself reeks of blame even if that is not the intent. To reduce exposure, you must understand the causes and context behind the vulnerability and address them. Without the cooperation and trust of the workforce (the true experts at doing the job), this is quite difficult.

The Bottom Line

It is long overdue that we repurpose the time we spend on investigations and leverage organizational learning. It is time we stop arguing over root causes and better understand and eliminate, reduce, or control exposure. It is time to stop the blame and enable employees to be successful.

It is time to Rethink Incident Investigations and transform them into broader, more impactful, and more valuable Event Learning.

Ready to rethink your incident investigations?



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