



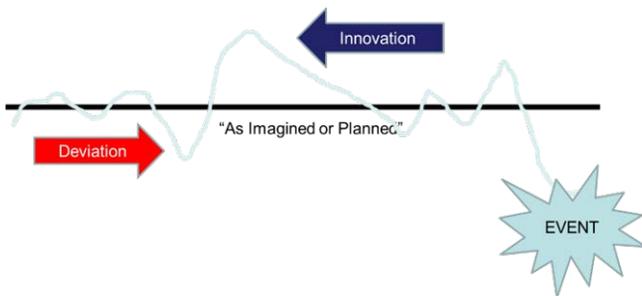
# Incident Evaluations

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## BACKGROUND

Potential incidents happen daily on pretty much every jobsite. Many people are surprised by this statement; however, it depends on how one defines incidents. Incidents should be defined as an outcome that deviates from expectation. An event usually happens when the work performed does not go as planned. When it goes well, this is called innovation and is celebrated. However, when work goes poorly, it is a deviation and many times, this becomes an incident. It is important to treat both these anomalies as potential incidents to better understand how to avoid incidents in the future.



When identifying a problem, one must look at the difference between the expectation and the actual outcome (Kolb, et al). This means that innovations and deviations are both areas that need to be reviewed for either best management practices or potential issues that may lead to an event.

## INCIDENT EVALUATION

When work doesn't go according to plan, it is helpful to find the root cause of the deviation and explain why an event happened and how it can be corrected in the future. Incident evaluation can be done in multiple ways to determine the root cause of an event. Common ways are to use a barrier analysis or causal analysis (why tree). The goal of an incident evaluation is to figure out the root cause of the event to determine what actions that will mitigate similar events in the future.

When developing corrective actions, the incident evaluation team must be sure that management has sufficient control to fix the cause, corrective actions address the event and similar events, and these actions prevent or reduce the probability of recurrence or mitigates the consequences at the best point of intervention.

In addition to mitigating risk, incident evaluation should also expose latent organizational weaknesses, such as an unclear policy or vagueness in procedures that produce different results (hand tight bolts). Another example of a latent organizational weakness is a communication practice that is not clearly defined and inconsistent, e.g. pre-work meetings that are not structured conversations that ultimately lead to miscommunication during a project resulting in an incident. Incident evaluations should also include analysis on human performance and what conditions influenced that performance, such as rushing by the employee. And finally, the analysis should be focused on what could have prevented the error and consequences rather than simply focusing on who caused the event.

## WHY CONDUCT AN INCIDENT EVALUATION

Causal Analysis are a great tool to ensure that workers operate safely. Incident Evaluations are also a valuable tool for companies to understand the root cause of an innovation or deviation by reviewing incidents. This also messages to employees that safety and improvement are important which builds a culture of safety. A company that is interested in mitigating risk and continual improvement leads to increased morale, a lower possibility of recurrence, improved process, and latent organizational weaknesses continue to detrimentally impact the safety culture.



This Safety Alert analyzes an injury in accordance with the chain of events represented by the five dominoes above. Pioneer industry safety experts H.W. Heinrich and Alfred Lateiner developed this accident analysis system to provide a graphic sense of how injuries can be avoided. Their methodology has been accepted by safety professionals worldwide.

**Safety Meeting Report**

*Topic(s) Discussed:*

*Comments / Recommendations:*

*Date:*

*Company:*

*Names of Employees Attending:*

*Meeting Conducted by:*



# Incident Evaluations

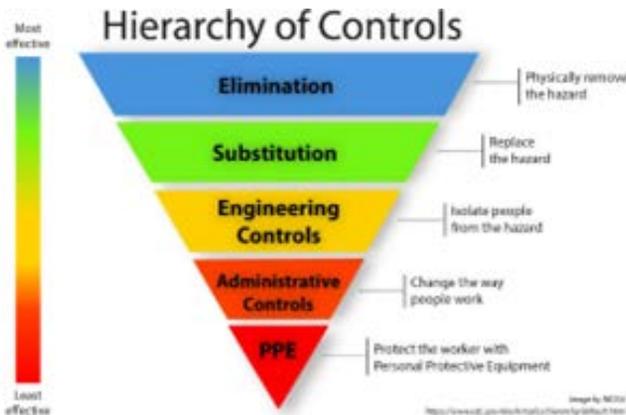
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Incident evaluations and corrective actions allow the company to continue to innovate and empower employees to affect the safety culture in a positive manner.

### DEVELOPING CORRECTIVE ACTIONS

Corrective actions should follow the hierarchy of controls 1) elimination, 2) substitution, 3) engineering controls, 4) administrative controls, 5) PPE. As the team is reviewing the incident and evaluating for corrective actions, they should be thinking about the hierarchy of controls with the best option being to eliminate the hazard completely and the least effective option being to add PPE requirements to the task.



### CONCLUSION

Causal analysis is an excellent tool to promote safety culture by showcasing the effectiveness of reviewing procedures, policies, engineering practices and workplace behaviors in conjunction with incidents. By reviewing incidents and near misses for root causes, companies can improve safety culture, employee moral, develop safety practices and significantly mitigate the risk of a catastrophic incident occurring.

### SOURCE

Kolb, David A., et al; Organizational Psychology; Prentice Hall, 1974  
Root Cause Analysis Fundamentals- Course 170015 – Rev 10  
Lucas Engineering  
National Institute of Occupational Safety and Health (NIOSH)  
<https://www.cdc.gov/niosh/topics/hierarchy/default.html>

In order to develop effective corrective actions, they must be SMART:

**Specific**-goal and methods are clearly defined, clear boundaries and it is clear how to reach the goal.

**Measurable** – objectives are measured quantitatively.

**Achievable** – humanly possible, and project the required resources

**Relevant** – goal meets actual needs and not just the three preceding criteria

**Timely** – deadlines or a schedule to complete the actions



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Please follow equipment manufacturers' recommendations for safe operation and maintenance procedures.

signature