Best Practice for Investigating Incidents

Scope

Properly conducted incident investigations allow for identification of root cause of an incident to prevent its recurrence. Note that OSHA's Process Safety Management and EPA's Risk Management Program regulations have specific regulatory requirements which are included in this best practice. This best practice provides guidelines to effectively investigate an incident from the moment the incident occurred to the completion of all action items. This best practice is not limited to safety incidents but can be used to investigate any type or size incident.

Key Points

- A screening method may need to be employed to prevent overwhelming local resources needed to investigate incidents.
- Ensure that root causes are identified and that action items/recommendations address root cause. If the root cause is "human error," dig more deeply for root cause.
- Ensure that the affected individuals on the work floor receive the investigation report on a timely basis. Not doing so can erode trust and morale of the workforce.
- Have a robust system to ensure timely completion of action items. Failure to act on action items/recommendations within a reasonable time frame is another way that trust and morale on the work floor can be eroded.
- Best practice is to have an internal third party to facilitate significant incident investigations, review incident reports prior to their issuance, and to independently verify action item/recommendations are adequately addressed.

Develop a Policy

Clearly define for your facility what incidents are to be investigated. It is recommended to include near miss incidents and not to limit the types of incidents to safety. Incidents related to process safety, environmental, mechanical failures, security etc., can all benefit from an incident investigation.

A screening method may need to be employed to prevent overwhelming local resources needed to investigate incidents. For example, non-regulatory (e.g. non-Process Safety Management / Risk Management Program) incidents with clear root causes that just need a repair and near misses or non-regulatory incidents with minimal worst-case consequences may just require simple documentation.

Develop a Report Format

A standard report format not only makes it easier to convey the incident details and actions, but it also can provide a guideline for conducting the investigation. Key elements of a report format include the following and are discussed in this Best Practice:

- Incident Number
- Short Title of the Incident (and date and time the incident was reported if there was significant delay in the incident becoming known)
- Date and Time of the Incident
- Date and Time the Investigation Started
- Location of the Incident
- Names of the Facilitator and Members of the Incident Investigation Team
- Name of individual with overall responsibility to
- Detailed description of the incident based on facts and evidence
- Primary cause of the incident
- Root cause analysis results
- Action Items/Recommendations, including Responsible Party and Anticipated Completion Date

<u>Incident Investigation Process from Start to Finish</u>

When an Incident Occurs

First ensure Emergency Action Plans appropriate for the incident are followed for immediate response and necessary notifications. Initiate the investigation by gathering facts and interviewing personnel related to the incident within 48 hours. This is a specific requirement of the Process Safety Management / Risk Management Program regulations

Within Five Calendar Days of when the Incident was Reported

Assemble the investigation team and issue the incident report with the open action items. The investigation team's size will depend upon the severity or potential severity of the incident. At a minimum, one team member must be familiar with the process or area where the incident occurred. Other potential team members include:

- Contractor representative if the incident involved contractor(s)
- Area supervision or engineer
- Operator or maintenance employee not involved in the incident, but familiar with the job/task that was being performed
- Bargaining unit representative
- Senior Management for serious incidents
- Individuals directly involved in the incident should not be on the investigation team but should be interviewed.
- Environmental/Safety/Health personnel

Document the facts of the case. Since incident reports are (and should) be distributed widely, do not include medical information in the report that is protected under HIPPA privacy regulations. Consider leaving out names of affected individuals and using job titles instead. Include photographs, historical data trends, diagrams, etc. that facilitate explaining the incident.

Determine root cause using any method that is effective for your organization. The 5-why method is simple and effective. Note that multiple 5-whys are typically needed for an investigation. See Appendix 1 for an example of a 5-why method. If human error is identified as a root cause, dig more deeply into why (e.g. training, fatigue, unclear instructions, over worked, distractions, etc.)

Develop action items/recommendations that address root cause, assigning a responsible party for each. Ensure the responsible party is promptly made aware of the action item. Don't depend on issuance of the investigation report as such notification. Assign an "incident responsible party" for guiding the incident investigation through the remaining steps of the process.

Submit the Incident Report for a Third-Party Review
Complete the investigation report and have it independently (internally) reviewed for understandability and to ensure that root cause was identified and addressed in the action items.

Issue the investigation Report
It is imperative that the investigation report be issued to the appropriate personnel. **One common problem with incident investigation reports is that the affected individuals on the work floor do not receive the report, or do not receive it on a timely basis. This problem can erode trust and morale of the workforce.**

Complete all Action Items/Recommendations within Specified Time Frames
While waiting on the action item to be done, ask yourself, what is keeping this incident from happening again tomorrow? This may lead to shutting down a process, expediting certain action items, temporary procedures, barricading, etc. **A second common problem with the incident investigation process is the timely completion of action items. The "incident responsible party" should routinely follow up with those who have been assigned action items/recommendations. Failure to act on action items/recommendations within a reasonable time frame is another way that trust and morale on the work floor can be eroded.**

Submit the Incident for Closure
For each action item, document the action taken and the date completed. Submit the completed incident to an independent internal closure team to review the actions taken.

Close the Incident

Develop and Track Performance Metrics
It is recommended to track the following.
Percentage of incidents that had the investigation started in 48 hours.
Percentage of incidents that had the incident report completed within five calendar days.

Percentage of incidents that had all action items completed in 60 days for safety incidents and 90 days for non-safety incidents. This should exclude action items involving capital expenditures.

Record Retention

Retain incident reports for at least five years.

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Appendix 1 – Examples of the 5-Why Method for Determining Root Cause

In these examples, the 5-why method is used to find the root cause(s) to an incident. Note that there may be more or fewer "why's" that the five that the name of this method implies. Ask "why" until there are no more answers.

Incident No. 1: Automobile will not start.

Why?
Battery is dead.

Why?
Alternator is not working.

Why?
Alternator belt is broken.

Why?
Alternator belt was well beyond its useful life and not replaced.

Why?
The vehicle was not maintained according to the recommended vehicle service schedule.

NOTE: The root cause is the answer to the last "why," that the vehicle was not regularly maintained. This is the root cause, and action item(s)/recommendation(s) must be developed to address this root cause.

Incident No. 2: Employee took shortcut and slipped and fell.

In this incident, more than one 5-why is used to fully investigate the incident. There is no limit to the number of 5-why paths taken. Each path will reveal a root cause that must be addressed.

Why did employee take shortcut?
Employee was in a hurry.

Why?
Employee felt rushed.

Why?
Etc. . . .

Why did employee slip and fall?
Employee slipped on spilled oil.

Why?
Spilled oil not cleaned up on a timely basis.

Why?
Etc. . . .