Investigation is the program established to identify, report, investigate, and record process safety incidents. Process safety incidents include near misses as well as significant events. This includes a system to identify, report, investigate and record all incidents including near misses and abnormal events.

Self-Assessment & Action Plan

Visit Investigation on pellet.org for:

* Self-Assessment & Action Plan Worksheets
* Example of Process Safety Incident Reporting and Investigation Procedure
* Example of Process Safety Incident Report Form

When completing the Self-Assessment & Action Plan below:

* If you identify a gap in any of the questions, develop an action plan.
* When choosing due dates for the action plans, consider the following to determine priority:
  + A qr code on a white background

    Description automatically generatedThe anticipated effort required to close the gap and make improvements,

QR Code

* + The benefits expected from taking action and implementing change, and
  + The urgency (e.g., perceived risk) of the improvements needing to be made.

Key Resources

* [PSM Implementation: How to Use the Self-Assessment Worksheets](https://pellet.org/resources/how-to-use-the-psm-self-assessment-worksheets/)
* [Process Safety Management](https://pellet.org/safety/safety-initiatives/process-safety-management-psm/) on [pellet.org](http://pellet.org/)
* [CSA Z767 Process safety management standard (2nd edition)](https://www.csagroup.org/store/product/CSA_Z767%3A24/)

Materials are being updated all the time - come back to pellet.org often.

Suggested Activities

* Establish what constitute as a reportable incident and define reporting criteria including incident classification.
* Set-up an incident review committee or team that involves senior leadership to ensure incidents are effectively acted on.
* Implement incident investigation guidelines.
* Create a program to track incident reports and action plans to completion.
* Provide resources and guidance for incident investigation team members.

Suggested Deliverables

* Documented incident investigation management system, including near misses.
* Documented process for identifying root causes and developing recommendations for preventing recurrence.
* Collection of data for analyzing trends and causes
* Established process for learning from incident investigations.

References

* Rayner Brown, K., Murray, G., Laturnus, B., Yazdanpanah, F., Cloney, C., Amyotte, P.R. (2024). [*Integrating Process Safety Management into Canadian Wood Pellet Facilities that Generate Combustible Wood Dust*](https://onlinelibrary.wiley.com/doi/10.1002/cjce.25462)*.* The Canadian Journal of Chemical Engineering. 102, 4085-4103.
* WorkSafeBC. (2022). [*Managing Risks in Manufacturing Workplaces: How to Use the Self-Evaluation Tool*.](https://www.worksafebc.com/en/resources/health-safety/information-sheets/managing-risks-manufacturing-how-to-use-self-evaluation) Last accessed April 2024.
* WorkSafeBC. (2023). [*Enhancing Health & Safety Culture & Performance: Self-Evaluation Tool for Managing Risks in Manufacturing Workplaces*](https://www.worksafebc.com/resources/health-safety/checklist/managing-risks-manufacturing-assessing-mobile-equipment?lang=en&direct). Last accessed April 2024.

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|  |  |  |
| --- | --- | --- |
| 1. **Do you have a system to identify, report, investigate and record all incidents including near misses and abnormal events?**   Yes (formalized)  Yes (informal) No Unsure | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Which of the following components does the incident investigation system have? Check all that apply.**   Procedures for conducting an investigation  Process to designate a competent individual to lead investigation  Process to engage personnel knowledgeable in process where incident occurred, and where possible, personnel involved in incident or health and safety representative  Process to establish scope of investigation proportionate with significance of incident  Capacity to identify outside subject matter expertise to be included in investigation  Not applicable | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Which of the following is included in incident investigation reports? Check all that apply.**   Incident date  Incident description  Detailed description of equipment failures and/or human errors  Contributing factors of the incident  Incident analysis method and/or identification of root causes  Recommendations to prevent the incident from happening again  Not applicable. | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Is there a process to follow-up on and implement recommendations made in incident investigation reports?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are corrective action plans (including timelines) developed to implement recommendations from incident investigation reports?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are corrective actions based on recommendations from incident investigation reports monitored for implementation?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are key findings of incident investigations communicated and shared with other facilities in the organization?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | **Due date (yyyy-mm-dd):** | |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are key findings of incident investigations communicated and shared more broadly (i.e., other facilities in the same industry) where lessons learned could be applied?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | | **Due date (yyyy-mm-dd):** |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are incident investigation reports analyzed to identify consistent recurring or systemic causes?**   Yes (formalized process documented) Yes (informal process)  No Unsure Not applicable | | |
| **Action owner** | | **Due date (yyyy-mm-dd):** |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Are incident investigation reports used to enhance process safety knowledge?**   Yes (formalized process documented) Yes (informal process) No Unsure  Not applicable | | |
| **Action owner** | | **Due date (yyyy-mm-dd):** |
| **Plans and actions needed to address gap or improve existing approach** | | |
| 1. **Is the hierarchy of controls (inherently safer design, passive engineering, active engineering and procedures) considered during investigation?**   Yes (formalized process documented) Yes (informal process) No  Sometimes Unsure Not applicable | | |
| **Action owner** | | **Due date (yyyy-mm-dd):** |
| **Plans and actions needed to address gap or improve existing approach** | | |

Review of Action Plan for Investigation

Complete the following table after corrective actions have been implemented.

|  |
| --- |
| Improvement actions taken |
| How did you ensure the controls were implemented in a timely fashion? How did you prioritize your actions? |
| How will you ensure the implemented controls will continue to be effective over time? |
| How are workers involved in developing and implementing controls? |
| How do you know that workplace decisions related to safety are effective and sustainable? |
| How do you measure change to establish a new performance expectation? |
| When changes are made, how are interrelated procedures, programs, and policies updated effectively? |
| Is a strategy for continuous improvement in place? How does this process work? |
| If you have multiple locations, are lessons learned and continuous improvements shared with other locations? How does this process work? |
| Is the safety management system self-sufficient, or does it rely on specific individuals to make it function? How do you ensure the system remains self-sufficient? |
| Overall effectiveness of improvement actions |