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:
	+ The 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      |